

**THE COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY**

D.T.E. 05-27

**DIRECT TESTIMONY OF
JOHN E. SKIRTICH**

***-TEST YEAR JUSTIFICATION
AND PRO FORMA ADJUSTMENTS TO
OPERATING EXPENSES,
INCOME AND OTHER THAN INCOME TAXES, DEPRECIATION,
AMORTIZATION, RATE BASE, AND
WORKING CAPITAL -***

**IN SUPPORT OF
BAY STATE GAS COMPANY'S
REQUEST FOR INCREASE IN BASE REVENUE
AND OTHER RATE MODIFICATIONS**

EXH. BSG /JES -1

APRIL 27, 2005

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DIRECT TESTIMONY OF JOHN E. SKIRTICH

I. INTRODUCTION

Q. Please state your name and business address.

A. My name is John E. Skirtich. My business address is 211 West Washington St.
Suite 2410, South Bend, Indiana 46601

Q. By whom are you employed?

A. I am associated with Adecco Technical (Adecco).

Q. For whom are you testifying today?

A. I have been asked by Bay State Gas Company ("Bay State") to present its revenue requirements analysis for this rate proceeding. I am also responsible for presenting Bay State's updated working capital study and calculations, which results in a change to Bay State's test year rate base.

Q. Please describe your professional experience.

A. During 1970, I worked for R. A. Saunders and Co., a Certified Public Accounting firm in Columbus, Ohio as an accountant. In November 1970, I was hired by the Columbia Energy Group service corporation as a Tax Accountant. Subsequent assignments included General Accountant, Senior Management Accountant, and

1 Senior Analyst. In September 1982, I was transferred to the Columbia Energy
2 Group gas distribution companies as a Financial Analyst in the Rate Department.
3 In March 1986, I was promoted to Senior Rate Engineer, and in March 1991, to
4 Manager of Regulatory Planning. On June 1, 1993, I was promoted to Director of
5 Regulatory Support Services, and on November 1, 1993, to Director of
6 Regulatory Policy and Planning. I was named Function Leader for Shared
7 Services - Finance and Regulatory of the distribution companies of Columbia
8 Energy Group on November 1, 1996, and I continued in that position until mid-
9 2000.

10
11 In June 2000, I retired from Columbia Energy Group. In December 2000, at the
12 request of Stephen H. Bryant, Bay State's President. In light of my experience in
13 regulatory and rate matters, I began to provide regulatory consulting services to Bay
14 State and its affiliate, Northern Utilities, Inc. ("Northern"). Acloché LLC, an
15 employment service, hired me as a regulatory consultant in June 2001, and I
16 continued to provide regulatory services for Bay State/Northern. I was the cost of
17 service witness for Northern in its 2001 New Hampshire Division general rate case
18 filing. In 2002, NCSC requested my services for the Columbia Gas of Kentucky
19 ("CKY") general rate case filing in support of a class cost of service study.

20
21 In 2003, NiSource Corporate Services Company ("NCSC") asked me to provide
22 manager services for an open position in their regulatory department. In this

1 position, I act as manager in providing regulatory services and training to the
2 NiSource operating companies in matters concerning the preparation of various rate
3 analyses typically required by state regulatory commissions as well as other
4 regulatory matters. In March 2005, I was hired by Adecco Technical, a division of
5 The Adecco Group, an employee service company. I still continue to provide
6 manager services for NCSC.

7
8 Q. Please describe your educational background.

9 A. I graduated from Capital University, Columbus, Ohio, in 1970, with a Bachelor of
10 Science degree in Business Administration.

11
12 Q. Have you testified before the Massachusetts Department of Telecommunications
13 and Energy ("Department") or any other regulatory commission?

14 A. I have not previously testified before the Department. However, my testimony has
15 been accepted by the New Hampshire Public Utilities Commission, the
16 Pennsylvania Public Utilities Commission, the Kentucky Public Service
17 Commission, the Maryland Public Service Commission and the Virginia State
18 Corporation Commission.

19
20 Q. What was the nature of the testimony you provided in those proceedings?

21 A. I testified on most aspects of utility revenue requirements in general rate case and
22 cost of gas recovery proceedings. In addition, my testimony focused also on cash

1 working capital requirements based on the lead lag methodology, as well as
2 embedded class cost of service studies.
3

4 Q. What is the scope of your testimony in this proceeding?

5 A. The purpose of my testimony is to present Bay State's operating income, as
6 adjusted, that demonstrates a revenue deficiency at current rates. My testimony
7 will address various known and measurable adjustments proposed by Bay State to
8 properly reflect a representative level of costs expected to be incurred by Bay
9 State based on current operating conditions. I will also address the test year level
10 of Bay State's rate base, including a detailed description of the cash working
11 capital component. In addition, I will present the proposed schedules for
12 calculating the annual increase in revenue for Bay State's Steel Infrastructure
13 Replacement ("SIR") program.
14

15 Q. Besides this exhibit, Exhibit BSG/JES-1, what other exhibits are you sponsoring?

16 A. The table below lists the additional exhibits that I am sponsoring.
17

18 **Table JES -1**
19

<u>Exhibit No.</u>	<u>Description</u>
Exhibit BSG/JES -2	Lead Lag Study
Exhibit BSG/JES -3	Metscan Recovery Request

Exhibit BSG/JES –4	Pension/PBOP Cost Included In O&M Expense
Exhibit BSG/JES –5	Advertising Material
Exhibit BSG/JES –6	NiSource Corporate Services Company and Bay State/Northern Management Fees

1
2 Q. Did you prepare the schedules that are included as part of Exhibit BSG/JES-1 as
3 required by Department rule, regulation or precedent?

4 A. Yes. Such schedules were either prepared by me or under my direct supervision
5 and control. Exhibit BSG/JES-1, Testimony, Table of Contents lists the items I
6 will be addressing in my testimony. Exhibit BSG/JES-1, Schedule Table of
7 Contents provides a listing of my schedules by number, cross-referencing those
8 designations with the schedules and studies required by Department rule. This
9 information is intended to assist all parties in their understanding and review of
10 Bay State's revenue requirement.

11
12 Q. Please summarize the results of your analysis.

13 A. As indicated on Schedule JES-2, Bay State has a revenue deficiency of
14 \$22,238,326. The revenue deficiency is based on the test year ended December
15 31, 2004, a rate base level of \$397,106,628 and an overall return of 9.05%.
16 Known and measurable adjustments were made to both utility operating income
17 and rate base. I will explain the basis for these adjustments in detail later in my
18 testimony.

1

2 Q. What is a revenue requirement factor, as applied on Schedule JES-2?

3 A. The revenue requirement factor is applied to the shortfall in operating income
4 when comparing the required return to pro forma operating income at current
5 rates. The revenue requirement factor, when applied to the shortfall, calculates
6 the revenue increase that is needed to recover the shortfall and the associated
7 Federal Income and Massachusetts State Franchise taxes and bad debt costs that
8 will occur as a result of the increase. In other words, for Bay State to earn \$1.00
9 of operating income, \$1.6819 of revenue must be included in rates to account for
10 Federal Income tax, Massachusetts State Franchise tax and bad debt cost that will
11 be incurred as a result of the increase. The development of the revenue
12 requirement factor is shown on Schedule JES -3.

13

14 **II. PURPOSE OF TESTIMONY**

15

16 Q. Please describe the purpose of your testimony in this proceeding.

17 A. My testimony and schedules develop and support Bay State's revenue
18 requirement that is being presented to justify the requested increase in gas
19 distribution base revenues. Bay State's revenue requirement analysis is based on
20 a test year 2004 rate base, revenues and expenses, pro formed for known and
21 measurable changes consistent with Department precedent. The proposed rates in
22 this proceeding will establish the "cast-off" rates for Bay State's Performance

1 Based Regulation Plan ("PBR Plan") presented in the testimony of Stephen H.
2 Bryant (Exh. BSG/SHB-1) and Lawrence R. Kaufmann (Exh. BSG/LRK-1).
3

4 **III. SUMMARY OF REVENUE REQUIREMENTS**

5
6 A. Method of Analysis

7 Q. What approach did you use to perform your revenue requirement analysis?

8 A. I determined Bay State's cost-to-serve using a test year approach as adjusted for
9 known and measurable changes. I then compared Bay State's cost-to-serve to its
10 test year revenues (as adjusted) to derive a revenue deficiency, and
11 correspondingly the additional revenue that Bay State requires to receive on a test
12 year basis to make up this deficiency. This approach, consistent with Department
13 precedent, recognizes that a utility's revenues should allow it to recover the
14 overall reasonable costs of providing service to its customers including the
15 opportunity for the utility to earn a fair rate of return on the investment it has
16 devoted to such service.

17
18 Q. What is the basis for Bay State's rate base, operating revenues and operating
19 expenses?

20 A. Bay State used historical test year data to determine its rate base, operating
21 revenue and operating expenses. The test year data were then pro formed for

1 known and measurable changes to determine appropriate revenues and expenses
2 for setting rates.

3
4 Q. What is the test year for Bay State?

5 A. The test year is the twelve-month period ending December 31, 2004.

6
7 Q. What standards did you employ to determine the pro forma adjustments to test
8 year data?

9 A. Consistent with Department precedent, adjustments to the test year are based upon
10 known and measurable changes to revenues and expenses that have occurred or
11 upon changes that will become known and measurable during the course of this
12 proceeding, or where appropriate, known and measurable changes that will be
13 experienced in the rate year.

14
15 Q. What is the "rate year?"

16 A. The term "rate year" describes the first twelve months during which the rates
17 established in this proceeding will be in effect, the period December 1, 2005
18 through November 30, 2006.

19
20 B. Summary of Results

21 Q. Please summarize the results of your revenue requirement analysis.

1 A. As shown on Schedule JES -2, comparing the revenue requirement to the
2 adjusted operating revenues derives the revenue deficiency for the test year of
3 \$22,238,326 based on an overall rate of return on rate base of 9.05%, and known
4 and measurable adjustments to test year revenues, expenses and rate base.

5
6 Q. Have you provided schedules that summarize the 2004 per books information and
7 data used to develop Bay State's revenue requirement analysis?

8 A. Yes, I have. Schedule JES -1, provides the 2004 per books statement of pre-tax
9 operating income for Bay State. It also includes the per books results of Bay
10 State's integrated energy and product services group, except for appliance sales
11 and installation activity of that group which is recorded below the line and
12 therefore not considered for purposes of determining Bay State's revenue
13 requirement. The per books information shown on Schedule JES-1 is the starting
14 point from which I make pro forma adjustments and changes to determine the
15 revenue deficiency for Bay State.

16
17 Q. Does Bay State's per books information correspond to other information available
18 to the Department, for instance the Department's Annual Report for Bay State?

19 A. Yes, it does. The 2004 per books information shown in Schedule JES-1 is
20 consistent with the reports that Bay State filed with the Department for the year
21 2004.

1 Q. Have you provided additional schedules that summarize the results of your
2 revenue requirement analysis and support the change requested?

3 A. Yes. As I indicated above, Schedule JES-1 consists of the computation of the
4 total revenue deficiency of \$22,238,326 for Bay State. Schedule JES-2 through
5 Schedule JES-15 provide the basic computations and support for the amounts
6 summarized on Schedule JES-1, including test year revenues, expenses and rate
7 base. Schedule JES-16 provides the revenue requirement utilizing the
8 Department's prescribed schedule format.

9

10 **IV. REVENUE REQUIREMENTS**

11

12 A. Operating Revenue

13 Q. Did you prepare the adjustments to per book revenue in arriving at adjusted books
14 operating revenue?

15 A. I did not. Schedule JES-4, Operating Revenue Summary, presents per books
16 Operating Revenue and Annualized Revenue at current rates that I used in
17 developing Bay State's revenue requirement. However, Mr. Joseph A. Ferro
18 prepared the adjustments to per books revenue and provided me with the total
19 annualized revenue at current rates as shown on his Schedule JAF-1-1. Mr. Ferro
20 explains his adjustments to per books revenue in Exhibit BSG/JAF-1.

21

1 B. Adjustments to Operating and Maintenance Expense

2 Q. What is the amount of Bay State's per books test year Operating and Maintenance
3 ("O&M") Expense?

4 A. In the test year, Bay State incurred \$99,007,484 in O&M Expense exclusive of
5 cost of gas, as shown on Schedule JES -1, Column 1, Line 4.
6

7 Q. What adjustments are you proposing to the test year level of O&M Expense?

8 A. I have made pro forma adjustments to the test year amounts totaling \$37,945, as
9 summarized on Schedule JES -6, Page 1 of 20. These adjustments appear in the
10 following categories of O&M Expense:

- 11 1. Payroll – Union
- 12 2. Payroll – Non-Union
- 13 3. Incentive Compensation
- 14 4. Medical & Dental Insurance
- 15 5. Property & Liability Insurance Expense
- 16 6. Self-Insured Claims
- 17 7. Gain on Sale of Property
- 18 8. Rate Case Expense
- 19 9. Bad Debt Expense – Gas Revenue
- 20 10. Bad Debt Expense – EP&S
- 21 11. NiSource Corporate Services Company
- 22 12. Charitable Contributions

1 13. Amortization of Deferred Farm Discount Credits

2 14. Postage

3 15. Research and Development Costs Related to GTI Activity

4 16. Iron Lease Payment

5 17. Metscan Meter Reading Lease Payment

6 18. CGA & LDAC Recoverable Costs

7 19. Inflation

8 I will review each adjustment individually.

9
10 1. Payroll — Union

11 Q. How was the Payroll O&M Expense determined for Bay State's revenue
12 requirement?

13 A. The test year payroll amounts were examined to determine whether they would
14 continue to be the same in the rate year, or whether any known changes would
15 occur. It was determined that changes would occur for both union and non-union
16 payroll, and therefore pro forma adjustments were necessary.

17
18 Q. Why are these adjustments necessary?

19 A. The adjustments are necessary in order to determine the level of O&M Payroll to
20 be experienced during the rate year. The adjustments apply the known percent
21 payroll rate increases for 2005 and 2006 (midpoint), separately by union and non-
22 union categories, to O&M payroll for the test year. Payroll amounts charged to

1 capital and non-utility accounts are removed and excluded from this adjustment.

2
3 Q. What percentage increase was used for the union payroll?

4 A. As discussed in Mr. Barkauskas's testimony (Exh. BSG/SAB-1), Bay State has
5 six separate collective bargaining agreements covering its union employees. The
6 annual increases and the term of the agreements vary, and are shown in Exhibit
7 BSG/SAB -1, Schedule SAB -1. In calculating the union increase all the
8 increases that occur before the midpoint of the rate year, June 1, 2006, were
9 reflected. The union agreement with Union Local 326 of Bay State's Lawrence
10 Division will expire on June 2005. Bay State is currently negotiating with the
11 union for a new agreement. The union payroll adjustment does not reflect any
12 increase at this time, but Bay State will update its payroll adjustment once an
13 agreement is reached. The total union increase currently reflected in the revenue
14 requirement is \$1,173,418. See Schedule JES-6, Page 2 of 20.

15
16 2. Payroll – Non-Union

17 Q. With regard to the non-union increases, what is their effective date?

18 A. Bay State as well as NiSource Corporate Services Company non-union employees
19 have an annual merit payroll increase date of March 1. They received an annual
20 merit increase March 1, 2004 and March 1, 2005. The payroll adjustment reflects
21 the annualization of the March 1, 2004 merit increase and the full March 1, 2005
22 merit increase. As indicated by Mr. Barkauskas, it is expected that a merit

1 increase will also occur March 1, 2006 for non-union employees. Therefore, I
2 reflected a 2% merit increase effective March 1, 2006 in the non-union payroll
3 adjustment. The total payroll increase for non-union employees is \$443,840 as
4 shown on Schedule JES -6, Page 2 of 20.

5
6 Q. What is the Department's standard for permitting post-test year payroll
7 adjustments?

8 A. Such adjustments are permissible if they are known and the increases for both
9 union and non-union employee groups take effect by the midpoint of the rate year.

10
11 Q. What is the Department's additional standard with regard to non-union payroll
12 increases?

13 A. The Department requires companies to demonstrate that the wages and benefits
14 paid to non-union employees are comparable to the industry peers and are
15 required to attract and maintain qualified employees.

16
17 Q. Did Bay State perform a compensation study to justify the level of its non-union
18 salaries and wages?

19 A. Yes, it did. The compensation study of payroll and incentive compensation, and
20 also medical and dental insurance pro forma adjustments are provided in the
21 Barkauskas Testimony. See, Exh. BSG/SAB-1.

1 Q. Please summarize Bay State's payroll adjustments.

2 A. The payroll adjustment, as detailed on Schedule JES-6, Page 2 of 20, increases the
3 test year payroll for known and measurable increases that will occur during 2005
4 and 2006, up to the midpoint of the rate year. The adjustment increases test year
5 O&M payroll by \$1,617,258; including an increase of \$1,173, 418 for union
6 payroll and \$443,840 for non-union payroll.

7

8 3. Incentive Compensation

9 Q. Do you adjust Bay State's payroll expense for incentive compensation?

10 Yes. During the test year, Bay State booked payroll accrual to match the
11 incentive payments made to employees for 2003 performance. Bay State under
12 accrued its 2003 incentive pay during 2003 and therefore, an adjustment was
13 needed in 2004. Since this expense pertained to 2003, I have eliminated the under
14 accrual from the test year. The adjustment reduces O&M expense by \$124,422 as
15 shown on Schedule JES -6, Page 3 of 20.

16

17 Q. What level of incentive compensation have you reflected in the revenue
18 requirement?

19 A. During the test year, Bay State had accrued payroll expense at the "trigger" or
20 first level of the incentive compensation program. Excluding the adjustment
21 addressed above, I have not adjusted the incentive compensation amount above
22 the level accrued during the test year. Bay State paid incentive bonuses in 2005

1 based on 2004 performance at the 'trigger' level. See Barkauskas Testimony
2 (Exhibit BSG/SAB -1) for a description of NiSource/Bay State's incentive
3 compensation program.
4

5 4. Medical and Dental Insurance

6 Q. Why has Bay State made an adjustment to test year levels of medical and dental
7 insurance?

8 A. This adjustment reflects known and measurable increases that were experienced
9 in 2005. The adjustment is detailed on Schedule JES-6, Page 4 of 20 and
10 increases test year O&M expense by \$741,045.
11

12 Q. What is the cause of the increase in medical and dental insurance costs?

13 A. As is evident in every business sector, medical insurance costs continue to rise.
14 Many of the providers insuring Bay State employees increased their rates after the
15 test year. Therefore, the Medical and Dental Insurance cost for the test year is not
16 reflective of the actual costs that will be incurred by Bay State when the new rates
17 take effect.
18

19 Q. What are the known and measurable changes attributable to?

20 A. Medical and dental insurance, as included in Bay State's revenue requirement, is
21 based on three factors: the rates effective for 2005, the employee enrollment in
22 January 2005 and the related employee contributions to the insurance plans.

1

2 Q. Has Bay State taken any steps to contain the increases in its medical and dental
3 insurance expense?

4 A. Yes. As described in the Barkaukas's Testimony, Exh. BSG /SHB -1, Bay State
5 continually evaluates the coverage and premiums under its insurance programs as
6 compared to the coverage and cost of market alternatives. This review is
7 conducted for Bay State, individually, and also for NiSource, to ensure that costs
8 are contained as much as feasible while still providing a reasonable level of
9 coverage. Since its affiliate with NiSource, Bay State has been able to obtain
10 more competitive rates from its carriers.

11

12 Q. How was the adjustment to test year medical and dental insurance expense
13 calculated?

14 A. In determining the increase in medical and dental cost, I first determined the 2004
15 amount by applying employee enrollment for each plan to the 2004 prices. As
16 shown on Schedule JES -6, Page 4 of 20, Line 17 the 2004 amount totaled
17 \$4,392,500. Second, the enrollment at January 2005 was applied to the 2005
18 prices to arrive at the annualized 2005 medical and dental cost which totaled
19 \$5,372,200 as shown on Line 34 of Schedule JES -6, Page 4 of 20. The
20 difference amounted to an increase of \$979,700 in total medical and dental costs.
21 Of this amount 75.64% or \$741,045 will be expensed with the remainder charged
22 to capital. The 75.64% is based on the amount of payroll charged to O&M

1 expense divided by the total payroll for the test year. The resulting test year
2 medical and dental insurance pro forma adjustment to O&M expense is
3 \$741,045. See Schedule JES-6, Page 4 of 20.
4

5 5. Property and Liability Insurance Expense

6 Q. Please describe Bay State's property and liability insurance coverage.

7 A. Property and liability insurance coverage includes a number of types of insurance
8 that provide protection from casualty and loss, and other damages that Bay State
9 may incur in the conduct of its business. NiSource Corporate Services Company
10 manages the NiSource corporate insurance program through which Bay State
11 secures insurance coverage. The corporate insurance program includes both
12 premium-based and self-insured coverage, in order to obtain the most cost-
13 effective loss protection.
14

15 Q. What actions have NiSource and Bay State taken to control liability insurance
16 costs?

17 A. All insurance programs and policies for the last three years have been evaluated
18 annually with the aid of insurance brokers in order to secure the best available
19 coverage at the best available rate. Multi-year policies have been considered,
20 however, market conditions and pricing have not proved favorable to multi-year
21 policies. Furthermore, NiSource Insurance Company Limited ("NICK"), a
22 NiSource, Inc. subsidiary, provides insurance coverage and is included as part of

1 the annual evaluation process undertaken to review exposures, premiums and
2 coverage. NICL provides Bay State with stable coverage at a reasonable cost
3 when the commercial market does not provide satisfactory coverage or prices.
4 Since NICL is not designed to make a profit, premiums are based solely on the
5 cost of risk and do not have significant loads for profit. Should coverage be
6 available at a lower cost in the commercial market or it is determined that the risk
7 is better transferred to the commercial market, NICL is not used.

8
9 Q. Why are you proposing an adjustment to test year property and liability insurance
10 expense?

11 A. An adjustment to test year property and liability insurance expense levels is
12 necessary to reflect known and measurable changes to be experienced in 2005.

13
14 Q. How is the pro forma adjustment calculated?

15 A. The adjustment annualizes the current premium costs that increased during the
16 test year. Most Bay State's policies cover the fiscal period July 1 through June
17 30. Annual premium payments are generally made during July and a few are
18 made in November. The prepayment of these costs is recorded and amortized
19 over the appropriate fiscal period. Schedule JES -6, Page 5 of 20 compares the
20 latest annual premium payments by type of coverage to the amount expensed for
21 the same items during the test period. The adjustment reflects an increase of
22 \$94,997 as shown on Schedule JES -6, Page 5 of 20. Annual premiums will be

1 received and paid in June 2005 for the fiscal year July 2005 through June 2006. I
2 will be updating this adjustment to reflect the new premiums.

3
4 6. Self Insurance Claims

5 Q. Please describe how Bay State self-insures its claims.

6 A. Bay State, through the NiSource corporate insurance program, self-insures the
7 deductible portion of certain policies. The deductible for property damage is a
8 \$1,000,000 per occurrence, \$200,000 for auto liability, employee liability, and
9 general liability, \$500,000 per occurrence for crime and \$10,000,000 per
10 occurrence for directors and officers. Bay State eliminated the deductible for
11 workers compensation effective July 1, 2004.

12
13 Q. Please describe the proposed adjustment to self-insured claims.

14 A. The level and number of claims fluctuates from year to year. Typically, a five-
15 year average is used to normalize the level of self-insured costs for ratemaking
16 purposes. As shown on Schedule JES -6, Page 6 of 20, I have adjusted the per
17 book amounts for General and Auto Liability claims to the five year average.
18 This results in a \$351,374 increase for General Liability and a \$12,959 reduction
19 for Auto Liability. As noted above, the deductible went to zero for workers
20 compensation so I have eliminated the book expense of \$258,394.

21
22 Q. What is the total adjustment for Bay State's self-insured portion of its insurance

1 program?

2 A. I have increased O&M expense by \$80,021 for recovery of self-insured claims as
3 shown on Schedule JES -6, Page 6 of 20.

4
5 7. Gain on Sale of Property

6 Q. Please describe the adjustment made to pass back the gain associated with sales of
7 utility property.

8 A. Since Bay State's last general base rate case, Bay State sold utility property on
9 four occasions that resulted in a gain. The sales are related to the sale/leaseback
10 of water heaters in 1995 and the Westborough headquarters in 1997, the sale of
11 LNG trailers in 2001 that were fully depreciated, and the sale of propane assets to
12 EnergyUSA. Schedule JES 6, Page 7 of 20 identifies the four sales and provides
13 the details in support of the gains. The gain related to the Westborough
14 headquarters totaled \$864,829. I have reduced that amount by \$141,832 or
15 16.40% representing the amount allocated to affiliates that were paying for the
16 building and land through rent. Northern was billed via Bay State's management
17 fee for its proportionate share of the headquarters, resulting in a net cost to Bay
18 State. The 16.40% is based on the 2004 three-part formula used to allocate
19 common costs in effect during the test year.

20
21 Q. Did you adjust any of the other gains?

22 A. Yes. The gain from the sale of propane assets to EnergyUSA was the result of the

1 sale of land in West Springfield. The book cost of the West Springfield land was
2 \$58,736. A portion of the land was non-utility property and never included in
3 rates. The gain was allocated based on the book cost of the land: the utility
4 portion had a cost of \$48,939 (83.32% of the total) and the non-utility portion of
5 \$9,797 (16.68% of the total). I reduced the gain by 16.68% for the portion
6 attributed to non-utility property.
7

8 Q. Please describe your adjustment to the revenue requirement?

9 A. The gains assigned to Bay State customers totaled \$2,040,984. I propose to
10 amortize this amount over 5 years, the proposed PBR period. This results in a
11 reduction in O&M expense of \$408,197 annually, as shown on Schedule JES -6,
12 Page 7 of 20.
13

14 8. Rate Case Expense

15 Q. Please describe the Department's precedent with regard to recovery of rate case
16 expenses.

17 A. The Department permits a company to normalize the reasonable costs of rate case
18 proceedings based on the average of the periods between a company's last four
19 rate cases. The Department also has repeatedly reminded the utilities under its
20 jurisdiction that they must provide adequate justification in any instance they
21 forego competitive bidding when securing outside services for rate case support.
22

1 Q. Did Bay State contract for outside services in order to prepare this rate request?

2 A. Yes. Bay State contracted with various non-affiliate consultants for outside
3 services with regard to: preparing the depreciation study; developing a PBR Plan;
4 determining the cost of common equity; performing cost of service studies;
5 supporting the accelerated steel infrastructure replacement program; and for
6 acquiring legal services. Bay State also contracted with several other outside
7 consultants to provide rate case support including market analyses of labor and
8 benefit costs, historic capital expenditure analyses, building cost allocation
9 services, service quality audits and temporary help.

10
11 Q. Did Bay State select each of these consultants as a result of a competitive bidding
12 process?

13 A. Most but not all. Bay State employed a competitive bidding process in order to
14 select Earl Robinson for the depreciation study; with regard to the PBR, Lawrence
15 Kaufmann; with regard to the cost of equity, Paul Moul; with regard to the cost
16 of service studies, including the Marginal Cost Study, Class Cost of Service
17 Study, and the Simplified Market Based Allocator ("MBA"), Jim Harrison; with
18 regard to the steel infrastructure replacement program, RJ Rudden; with regard to
19 legal services, Nixon Peabody LLP. All in all, Bay State sought competitive bids
20 for approximately 82% of its total estimated rate case expense.

21
22 Q. What services were not competitively bid?

1 A. Bay State hired its other rate case consultants without competitive bids due to
2 their unique familiarity with Bay State operations, competitive rates and ability to
3 provide the requested services in a timely manner.

4
5 Q. How has Bay State attempted to address the Department's concern in recent rate
6 cases that a company's rate case estimate be reliably updated?

7 A. The Rate Case Expense schedule, Schedule JES-6, Page 8 of 20, was prepared
8 after discussions with Bay State's outside consultants and careful evaluation of
9 the costs incurred in prior regulatory proceedings.

10
11 Q. Could additional expenditures significantly increase the estimate for rate case
12 expense?

13 A. To the extent practicable, Bay State has taken all reasonable steps to identify the
14 costs that have been or may be incurred in this proceeding. However, because of
15 the potential breadth of the proceeding, factors totally unanticipated during the
16 preparation phase of a rate case may become apparent and/or take on undue
17 complexity during the evidentiary and litigation phases of the proceeding.
18 Therefore, Bay State proposes, according to Department custom, to update rate
19 case costs every two weeks throughout the course of the proceeding. Rate case
20 expenses will be tracked by invoice, each of which is reviewed for accuracy and
21 reasonableness, and electronically tracked by spreadsheet identifying when each

1 invoice is approved for payment and charged to the appropriate account on the
2 general ledger.

3
4 Q. How does the cost of the rate case appear in Bay State's revenue requirement?

5 A. The expected cost of \$1,658,500 was normalized over 5 years and resulted in a
6 \$331,700 increase in O&M expense as shown on Schedule JES-6, Page 8 of 20.
7 In any event, the actual costs will be updated before the end of the proceeding.

8
9 Q. Is the five-year normalization period consistent with the Department's standard?

10 A. Yes as adjusted. As noted earlier, the standard requires that rate case expense be
11 normalized over the time between a company's most recent four general rate case
12 filings. Besides this case, Bay State filed a general rate case in 1983, 1989 and
13 1992. The time period between these four cases (6 years, 3 years and 13 years)
14 average a little more than 7 years. However, during the period from the 1992
15 filing, Bay State was under a five-year rate freeze that ended on November 1,
16 2004. Eliminating the 5 years from the last period reduces the average to just
17 over five and a half years. Since the Department allows the PBR period as an
18 alternative normalization period and the adjusted average is similar to the
19 proposed five-year PBR period, the Company proposes to use the five-year PBR
20 period.

1 9. Bad Debt Expense – Gas Revenue

2 Q. Did Bay State adjust the test year bad debt level for ratemaking purposes?

3 A. Yes. In doing so, as shown on Schedule JES-6, Page 9 of 20, Bay State computed
4 its Bad Debt expense in accordance with the Department's standards.
5

6 Q. Please explain.

7 A. Amounts were totaled for the past three years, including the test year, for net
8 write-offs and firm billed revenues. The years used were 2002, 2003 and 2004 as
9 shown on Schedule JES-6, Page 9 of 20. The bad debt ratio of 2.17% was
10 determined by dividing total net write-offs by total firm revenues, as shown on
11 Schedule JES-6, Page 9 of 20. Test year firm revenues, normalized for weather
12 and unbilled revenue adjustments, were then multiplied by the bad debt ratio to
13 derive the bad debt Expense – Gas Service for ratemaking purposes, as shown on
14 Schedule JES-6, Page 9 of 20. Finally, the test year level of bad debt expense was
15 subtracted, resulting in a pro forma increase of \$7,106,032 in bad debt expense.
16 See Schedule JES-6, 9 of 20.
17

18 10. Bad Debt Expense – EP&S

19 Q. Are the service business activities related to Bay State's Energy Products and
20 Services reflected above the line?

21 A. As explained by Mr. Bryant in his testimony (Exhibit BSG/SHB –1), certain
22 services provided by Energy Products and Services ("EP&S") are reflected above

1 the line and provide direct benefits to Bay State ratepayers, specifically the
2 Guardian Care service business and Water Heater rental business. Boiler and
3 Furnace Sales and the Installation Business are reflected below the line.
4

5 Q. Is the bad debt expense for these services included in per book O&M expenses?

6 A. Yes. The bad debt expense for the Guardian Care service business and Water
7 Heater rental businesses is included in per book O&M expense.
8

9 Q. Did you adjust bad debt expense related to these above the line services?

10 A. Yes. As shown on Schedule JES -6, Page 10 of 20, I followed the Department's
11 standard for gas utility service in calculating the appropriate level of bad debt
12 expense for EP&S. I averaged Miscellaneous Service Revenue and write-offs for
13 the same three years: 2002, 2003 and 2004. I divided the average write-offs by
14 the average revenue to arrive at a three-year bad debt ratio of 4.54%. I then
15 applied the test year level of Miscellaneous Revenue to the bad debt ratio to arrive
16 at a total allowable bad debt expense of \$658,999. When compared to the per
17 book amount of \$412,767, an adjustment of \$246,232 is necessary.
18

19 11. NiSource Corporate Services Company

20 Q. Did you include in Bay State's revenue requirement a test year level of expenses
21 for NCSC costs charged to Bay State?

1 A. Yes. Bay State's operating expenses include NCSC charges. Please see Exh.
2 BSG/JES -6, Pages 1 and 2 of 3 for a monthly summary of NCSC costs billed to
3 Bay State included in O&M expense.
4

5 Q. What expenses do NCSC costs include?

6 A. NCSC bills Bay State for the costs of providing requested service as well as the
7 allocated labor and overhead expenses for the service company operations. No
8 profit is recovered on service company charges billed to retail distribution
9 affiliates.
10

11 Q. Please identify the services that NCSC renders to Bay State.

12 A. NCSC provides professional and technical services which include accounting,
13 payroll, auditing, employee benefits, planning, risk management, tax, legal,
14 environmental, financial, data processing, telecommunications and general
15 advisory services. These services are provided to all affiliates on a system-wide
16 basis.
17

18 Q. How does NCSC determine the charges applicable to Bay State?

19 A. The Securities and Exchange Commission ("SEC") under the Public Utility
20 Holding Company Act of 1935 ("PUHCA") regulates NCSC, and NCSC follows
21 the SEC Uniform System of Accounts for Mutual Service Companies and
22 Subsidiaries Companies. As required by the SEC, NCSC uses a job order system

1 to collect costs that are billable to affiliates, including Bay State. Each job order
2 details the affiliate(s) to be charged for the specific services and the basis for
3 allocating charges when more than one affiliate receives the same service.
4 Allocations among affiliates are made only if it is impractical to charge an
5 affiliate directly. However, all personnel within NCSC are required to charge an
6 affiliate directly whenever possible.

7
8 Q. How is NCSC billing accomplished?

9 A. Two methods are used to bill affiliates, including Bay State: 1) Contract billing;
10 and, 2) Convenience billing. Contract billing, identified by job order, represents
11 the labor and expense billed to the respective affiliate. These are costs incurred
12 by NCSC to render the services that NCSC agreed to provide at the affiliate's
13 request. The charges may be direct or allocated depending on the nature of the
14 expense. By contrast, Convenience bills are rendered when NCSC makes
15 payment to one vendor for goods and services that are for the benefit of all or
16 multiple affiliates. Convenience bills generally reflect services that are routinely
17 performed on behalf of affiliates on an ongoing basis. NCSC then bills each
18 affiliate for its proportional share of the payment. Payroll funding, employee
19 benefits, premiums and leasing represent most of the convenience payments.

20
21 Q. What information does the monthly invoice for contract billing from NCSC to
22 Bay State contain?

1 A. The monthly invoice details by NCSC functional area or cost center, by job order
2 the cost for services provided. Direct and allocated labor, benefits, direct and
3 allocated expenses and NCSC costs are broken out for each function/job order. As
4 explained earlier, direct charges represent expenses paid by NCSC that have been
5 specifically identified and charged directly to an affiliate. The allocated costs are
6 those costs that are allocated to the affiliate for services provided to multiple
7 companies. The final column shows the assignment of NCSC costs to operate.
8 Exh. BSG/JES -6, Pages 1 and 2 summarizes by the categories described for each
9 month of the test year.

10
11 Q. Did the NCSC charges to Bay State include any SEC audit expense in the test
12 year?

13 A. No, they did not.

14
15 Q. Are overhead and general costs associated with the NCSC's operations passed
16 through to Bay State pursuant to the allocation methodology?

17 A. The methodology by which NCSC costs are allocated and charged to Bay State
18 has been approved by the SEC pursuant to PUHCA. However, Bay State has
19 reviewed the particulars of NCSC charges to ensure that the NCSC costs included
20 in Bay State's operating expenses include only amounts that comport with
21 Department precedent for inclusion in rates.

1 Q. What was the result of that review?

2 A. It was determined that charitable donations likely would not comport with
3 Department precedent for rate recovery, and an adjustment was made to the
4 amount of the NCSC charges allocated to Bay State totaling \$8,735. See
5 Schedule JES -6, Page 11 of 20, Line 4.
6

7 Q. Did you make any other adjustments to the NCSC bill?

8 A. The payroll and benefits included in the NCSC bills were adjusted for known and
9 measurable changes identical to those made for Bay State's employees identified
10 above. Payroll was adjusted to reflect the annualization of the March 1, 2004
11 merit increase as well as the actual March 1, 2005 and the anticipated 2006
12 increases were reflected. The payroll increase totaled \$454,871 as shown on
13 Schedule JES -6, Page 11 of 20, Line 1. Medical and dental costs were also
14 adjusted to reflect the higher cost of these employee benefits similar to the
15 adjustment made for Bay State employees. The increase for medical and dental
16 costs is \$274,566 as shown on Schedule JES-6, Page 11 of 20.
17

18 Q. Did you adjust for payroll taxes related to the increase in payroll?

19 A. Yes. With the increase in payroll, NCSC is expected to incur and bill additional
20 FICA taxes. The Social Security portion of the FICA tax rate was applied to
21 approximately 74% of the increased payroll reflecting the base level. The
22 Medicare portion of the tax rate was applied to the entire payroll increase. The

1 increase in NCSC due to FICA taxes totaled \$27,421 as shown on Schedule -6,
2 Page 11 of 20.

3
4 Q. What is the net change to the NCSC charges?

5 A. The net change to the NCSC test year level of expense was an increase of
6 \$748,122 as summarized on Schedule JES -6, Page 11 of 20, Line 5.

7
8 12. Charitable Contributions

9 Q. Does the Department permit charitable contributions in a regulated company's
10 operating expenses for determining its revenue requirement?

11 A. Only if those contributions can be shown to have provided a direct benefit to Bay
12 State's ratepayers.

13
14 Q. Please describe your adjustment to O&M Expense for Charitable Contributions?

15 A. Bay State contributed \$147,271 to charitable organizations during the test year.
16 As shown on Schedule JES -6, Page 12 of 20, I have eliminated the \$147,271
17 from O&M Expense.

18
19 13. Amortization of Deferred Farm Discount Credits

20 Q. What is a Farm Discount Credit?

21 A. Under St. 1997, ch. 164, the General Court granted rate reductions to farms in the
22 form of a farm discount applicable to all gas and electric distribution companies

1 in the Commonwealth. In its order relative to the farm discount, the Department
2 authorized Bay State and all LDCs to propose as part of their next rate case the
3 recovery of deferred amounts of revenue discounts made available to qualified
4 farm customers.

5
6 Q. What is the amount of farm discounts provided by Bay State Gas?

7 A. The amount of farm discounts provided to eligible farmers from 2002 through the
8 end of the test year totaled \$76,600, per Schedule JES-6, Page 13 of 20, Bay State
9 is proposing to amortize this amount over a 5-year period consistent with the
10 duration of its proposed PBR. Bay State believes that it is appropriate to update
11 this adjustment for changes in the deferred balance during this proceeding, and
12 will provide such changes as an amendment to the filing.

13
14 Q. What is the amount of the adjustment for the recovery of the amortized farm
15 discount?

16 A. The pro forma adjustment based on the deferred balance at December 31, 2004 to
17 Bay State's test year revenue requirements is \$15,320. See Schedule JES -6,
18 Page 13 of 20.

19
20 14. Postage

21 Q. Please explain this proposed adjustment to test year postage expense?

1 A. I am proposing a \$67,947 increase in Bay State's postage cost based on a 5.41%
2 increase in postage. On April 8, 2005, the United States Postal Service filed a
3 request seeking higher rates. In the filing, the United States Postal Service
4 requested 2 cents or 5.41% increase in the cost of first class mail. It stated that
5 the 5.41% increase was across the board and would take effect, if approved, in
6 early 2006. I assumed that the requested postage increase will be approved as
7 filed, and I applied the 5.41% to Bay State's test year level of postage cost of
8 \$1,255,946 to arrive at the pro forma adjustment of \$67,947 as shown on
9 Schedule JES -6, Page 14 of 20

10

11 15. Research and Development Cost Related to GTI Activity

12 Q. Is Bay State proposing to recover costs in the rate year associated with the Gas
13 Technical Institute's Operations Technology Development ("OTD") and
14 Environmental Issues Consortium ("EIC")?

15 A. Yes. As discussed in greater detail by Mr. Cote in his testimony (Exhibit
16 BSG/DGC -1) and Mr. Bryant in his testimony (Exhibit BSG/SHB -1), a number
17 of projects can directly benefit Bay State customers. Therefore, as shown on
18 Schedule JES -6, Page 15 of 20, Bay State has included \$310,000 as a pro forma
19 adjustment related to the fees associated with OTD and EIC.

20

21 16. Itron Lease Payment

22 Q. Please explain the Itron lease payment adjustment.

1 A. Bay State, as discussed by Mr. Bryant in his testimony (Exhibit BSG/SHB -1),
2 has been replacing for several years its Metscan automatic meter reading devices
3 with Encoding and Receiving Transmitters ("ERT") provided by Itron. Bay State
4 purchased the new units and sold and leased back a large portion of them. A
5 sale/lease back of a block of units with a cost of approximately \$2.4 million
6 occurred in December 2004. The first lease payment came due in January 2005.
7 As shown on Schedule JES -6, page 16 of 20, I have adjusted O&M expense by
8 \$310,104 to reflect the annual lease payment of these units.

9
10 Q. Were the costs of the units included in Utility Plant at the end of the test year?

11 A. No. The sale was completed in December and the costs were eliminated from
12 property and plant. A small amount of depreciation was recorded on these units
13 during the test year, but it was eliminated through the annualization adjustment of
14 depreciation that I will discuss later in my testimony

15 .

16 17. Metscan Meter Reading Lease Payments

17 Q. Please explain your adjustment for the Metscan Meter Reading lease payments?

18 A I have eliminated \$2,919,051 of lease payment costs from O&M expense related
19 to long term leases of Metscan meter reading devices. Please see Schedule JES -
20 6, Page 17 of 20. As discussed by Mr. Bryant in his testimony, Bay State has
21 taken out of service most of the Metscan meter reading devices. An operating
22 lease covers a large portion of these devices. Bay State is seeking recovery

1 through amortization of a payoff of the lease payment as well as the net book
2 value of the devices that were on the company's books at the end of the test year,
3 but written off in March 2005. To properly reflect the proposed recovery, as
4 described by Mr. Bryant, three adjustments need to be made to the per books
5 amounts: 1) eliminate the lease payment from O&M expense, 2) recognize the
6 proposed amortization of cost, and 3) eliminate from rate base the net book value
7 of the plant retired in March 2005. I have reflected the first adjustment here, the
8 elimination of the lease payment from O&M expense. Exhibit BSG/JES -3
9 presents the three adjustments to the Revenue Requirement and calculates the net
10 cost to customers.

11
12 18. CGA/LDAC Recoverable Costs

13 Q. Please describe what CGA/LDAC Recoverable Costs are?

14 A. CGA/LDAC Recoverable Costs are those costs that are recovered through the
15 Cost of Gas Adjustment (CGA) clause and/or the Local Distribution Adjustment
16 Clause (LDAC) as provided by the Department. The costs are excluded from
17 O&M expense, as well as revenue, to properly reflect the level of O&M expense
18 for base rate recovery.

19
20 Q. Please describe the adjustment to test year operating expense that you propose
21 with regard to CGA/LDAC Recoverable Costs.

22 A. I have eliminated \$9,227,167 of O&M expense from the test year level of O&M

1 expense. The adjustment is detailed on Schedule JES -6, Page 18 of 20 showing
2 the various CGA/LDAC cost components included in O&M expense that were
3 eliminated.

4
5 19. Inflation

6 Q. Why does Bay State propose an Inflation Allowance?

7 A. Bay State proposes an inflation allowance, consistent with Massachusetts law, to
8 recognize the impact of inflation over time on a regulated company's earnings,
9 even when rates are set initially at a just and reasonable level. The inflation
10 adjustment recognizes that inflationary pressures, not subject to the control of Bay
11 State, tend to affect Bay State's operating expenses in a manner that can be
12 reasonably measured. Under Department precedent, the adjustment only includes
13 an allowance for those expenses that cannot be adjusted separately ("residual
14 O&M Expense") and extends to only the midpoint of the rate year. In this case,
15 adjusting the test year revenue requirement level to reflect the impact of inflation
16 over time is especially important given Bay State's proposed PBR Plan.

17
18 Q. Please describe the adjustment for inflation.

19 A. An inflation allowance has been applied to test year residual O&M Expenses, as
20 shown on Schedule JES-6, Page 19 of 20. The inflation allowance has been
21 calculated based on the projected inflation rate of 3.51% from the midpoint of the
22 test year to the midpoint of the rate year. See Schedule JES-6, Page 20 of 20. In

1 order to determine the level of test year residual O&M Expense, I reduced test
2 year O&M Expense exclusive of gas costs by (1) expenses that have been
3 adjusted separately and (2) expenses not impacted by general inflation. The
4 inflation rate was separately calculated, as measured by the projected growth in
5 the Gross Domestic Product Implicit Price Deflator (GDPIP) from the midpoint
6 of the test year to the midpoint of the rate year. See Schedule JES-6, Page 20 of
7 20.

8
9 Q. What inflation allowance was calculated?

10 A. The calculation produces an inflation allowance to be added to the test year
11 revenue requirement of \$1,195,274. See Schedule JES-6, Page 19 of 20, Line 26.

12
13 C. Depreciation

14 Q. What level of depreciation is Bay State proposing for its revenue requirement?

15 A. Bay State proposed depreciation expense is \$28,800,958, an increase over book
16 depreciation of \$4,674,251. The increase, summarized on Schedule JES-7, Page 1
17 of 4, is the result of the annualization of depreciation at the new proposed rates
18 and the depreciation amount associated with construction work in progress that
19 was put in service prior to December 31, 2004.

1 1. Annualization

2 Q. Please describe the adjustment to annualize depreciation at the new proposed
3 depreciation rates?

4 A. Earl M. Robinson has prepared a depreciation study of the Company's plant. I
5 have applied the proposed depreciation rates as developed by Mr. Robinson to test
6 year-end depreciable plant to annualize depreciation expense. Schedule JES -7,
7 Page 3 of 4, lists gross depreciable plant by gas plant account. The proposed
8 accrual rates shown in Column 3 are applied to the gross plant balances to arrive
9 at the annualized depreciation expense. I have not applied the depreciation
10 accrual rate to all of the Metscan plant shown in account 397. The amount shown
11 on line 44, \$5,266,582, was retired effective March 31, 2005 but transferred to a
12 regulatory asset so I have not calculated depreciation expense on this amount. I
13 have applied the depreciation accrual rate for the Metscan devices to the
14 remaining amount of \$644,449 shown on line 43 since these Metscan devices will
15 continue to provide service. As I discussed earlier in my testimony, the Metscan
16 devices are being replaced with ERTs. The total annualized depreciation of
17 \$28,844,934 is carried forward to Page 2 of 4. The annualized amount is
18 compared to the per book amount resulting in a net increase of \$4,718,226. The
19 increase is reduced by \$66,839 for that portion to be billed to Northern for
20 common use of facilities through the Management Fee. The net adjustment totals
21 \$4,651,387.

2. Completed Construction in Service

Q. Why is Bay State adjusting depreciation expense related to construction work in progress?

A. Bay State had \$1,053,621, Schedule JES -7, Page 4 of 4, of non-revenue producing mains in construction work in progress ("CWIP") at the end of the test year that were completed and in service. The reason this balance had not been transferred to "utility plant in service" by the end of the test year is due to timing. Therefore, I have reclassified this portion of CWIP to "utility plant in service" and recognize the associated depreciation. The mains investment consists of plastic mains, which according to the proposed depreciation rates, has an annual accrual rate of 2.17%. By applying the 2.17% to the \$1,053,621, I arrive at an annual depreciation adjustment of \$22,864.

Q. Please summarize your depreciation adjustment.

A. As shown on Schedule JES 7, Page 1 of 4, I have increased per book depreciation by \$4,674,251 to \$4,651,387 to reflect the annualization of depreciation expense at the proposed depreciation rates and \$22,864 for depreciation on non-revenue producing construction work in progress that is completed and in service at the end of the test year.

D. Amortization – Utility Plant

Q. What adjustments have you made to Amortization Expense?

1 A. I have adjusted per book amortization for two items: Goodwill and Metscan meter
2 reading devices.

3
4 1. Goodwill

5 Q. Please describe your adjustment for Amortization of Goodwill?

6 A. Bay State has recorded to gas plant account 303, Miscellaneous Intangible Plant,
7 the Goodwill related to the Bay State/NIPSCO merger and the Lawrence Gas
8 Company merger. These amounts are being amortized over time. The annual
9 amortization for the Bay State/NIPSCO merger is \$11,027,252 and for Lawrence,
10 \$99,952 for a total of \$11,127,204 as shown on Schedule JES -8, Page 2 of 3,
11 Line 3. I have eliminated this amount from the per book amortization.

12
13 2. Metscan

14 Q. Is Bay State proposing to amortize certain Metscan costs?

15 A. Yes. As discussed earlier in my testimony there are three adjustments necessary
16 to reflect Bay State's proposed recovery of Metscan costs. This is the second
17 adjustment. Bay State is proposing to recover \$13,216,748, the cost of the
18 Metscan devices, over five years. The cost consists of the net present value of a
19 long term operating lease agreement and the net book value of Metscan plant that
20 was on the books and records of the company at December 31, 2004 but written
21 off in March 2005. As shown on Schedule JES -8, Page 3 of 3, Line 2, the net
22 book value of the Metscan devices totals \$3,121,366. The value of the long-term

1 lease, as shown on Line 4, is \$10,095,382, for a total cost of \$13, 216,748. Bay
2 State is proposing to amortize the total cost over 5 years resulting in an annual
3 amortization of \$2,643,350.

4
5 Q. Please summarize your adjustments for amortization?

6 A. As shown on Schedule JES -8, Page 1 of 3, book amortization is being reduced
7 by \$8,483,854, a reduction of \$11,127,204 for goodwill partially offset by
8 \$2,643,350 for the amortization of Metscan meter reading devices.

9
10 E. Taxes Other Than Income

11 1. Property Taxes

12 Q. Have test year Property Taxes been adjusted?

13 A. Yes. Test year property taxes have been adjusted as shown on Schedule JES -9,
14 Page 2 of 4.

15
16 Q. How have you determined what the level of property tax will be?

17 A. The property taxes from the most recent property tax bills received from the
18 municipalities where Bay State owns properties were totaled. Please see Schedule
19 JES -9, Page 3 of 4. The amount totaled \$7,383,960. This amount was compared
20 to the per book amount, of \$7,071,744 producing an increase in property tax
21 expense of \$312,217 as shown on Schedule JES -9, Page 2 of 4, Line 3. The
22 increase was reduced by, \$1,507, as shown on Line 5, that will be billed to

1 Northern for the common use of facilities to arrive at an adjustment to per book
2 property taxes of \$310,710 as shown on Schedule JES 9, Page 2 of 4. Consistent
3 with Department precedent, this adjustment to property taxes will be updated
4 during the proceeding for actual tax bills received.

5
6 2. Payroll Taxes

7 Q. Please describe the adjustment for Payroll Taxes.

8 A. The adjustment is detailed on Schedule JES-9, Page 4 of 4. This adjustment
9 calculates the increase in Federal Insurance Contribution Act ("FICA") payroll
10 tax related to the pro formed increase in payroll, shown on Schedule JES-6, Page
11 2 of 20.

12
13 Q. What is the amount of the adjustment?

14 A. The adjustment increases test year payroll taxes by \$91,114. Schedule JES-9, 4 of
15 4, Column 3, Line 7.

16
17 Q. How is the increase in test year payroll taxes calculated?

18 A. Separate adjustments were made for the Social Security and Medicare portions of
19 the FICA tax since taxable payroll is capped for the Social Security portion. For
20 the test year, total taxable payroll for Social Security was 96.75% of total taxable
21 payroll. This percent was applied to the proposed payroll increase of \$1,617,258
22 to arrive at the taxable payroll of \$1,564,624 for Social Security. The tax rate of

1 6.2% was applied to the taxable payroll to arrive at the tax change of \$97,007. A
2 capitalization factor was applied to the total amount to determine the Social
3 Security Tax adjustment of \$73,376 to adjust tax expense. A similar calculation
4 was made for Medicare portion, but the tax rate was applied to the entire increase
5 since there is no cap for Medicare. The Medicare portion increased Payroll taxes
6 by \$17,738 for a total payroll tax increase of \$91,114 as shown on Schedule JES –
7 9, Page 4 of 4.
8

9 Q.: Please summarize your adjustments to Taxes Other Than Income?

10 A. As shown on Schedule JES –9, Page 1 of 4, I am increasing Taxes Other Than
11 Income by \$401,823, an increase in property taxes of \$310,710 and an increase in
12 payroll taxes of \$91,114.
13

14 F. Interest on Customer Deposits

15 Q. Please explain the adjustment for interest on customer deposits.

16 A. Interest is paid on customer deposits based on the interest rate established by the
17 Department and is recoverable as a cost of doing business. To arrive at the
18 amount reflected in the revenue requirement, the interest rate, 2.38%, that is to be
19 applied in 2005 and was established by the Department has been applied to the
20 test year-end balance of customers' security deposits of \$3,046,489 to arrive at the
21 recoverable amount of \$72,506. The calculation is presented on Schedule JES –
22 10.

1

2 G. Computation of Federal Income and Massachusetts Franchise Tax

3 Q. Have you provided the Department with a description of adjustments to per books
4 operating results relative to Income Taxes?

5 A. Yes, I have. Schedule JES-11 shows the computation of Massachusetts State
6 Franchise Taxes and Federal Income Taxes calculated using the rate base and rate
7 of return methodology according to Department standard. In addition, the
8 computation provides for the amortization of the net regulatory asset resulting
9 from the application of Statement of Financial Accounting Standards ("SFAS")
10 109, "Accounting for Income Taxes," relating to both Federal Income and
11 Massachusetts State Franchise Tax.

12

13 Q. What is Financial Accounting Standard 109?

14 A. SFAS 109 required companies, effective December 31, 1992, to record on their
15 financial statements all future income tax liabilities. Because utilities subject to
16 cost of service ratemaking are allowed to recover income tax liability in rates, and
17 the benefits of certain tax depreciation deductions, they were allowed to record an
18 offsetting net regulatory asset representing the future recovery of the income tax
19 liability in rates. Bay State recorded a net regulatory asset and future tax liability
20 related to Federal and State income taxes since adopting SFAS 109.

1 Q. Please explain how Bay State proposes to recover the SFAS 109 net regulatory
2 asset.

3 A. In Bay State's 1992 case (DPU 92-111), the Department approved recovery of the
4 Company's total deficiency of \$4,385,240 over approximately 25 years. Annual
5 amortization of the deficiency was \$174,017. At December 31, 2004, \$2,286,034
6 remained. However, as a result of the Federal Income tax rate change from 34%
7 to 35% and to update for 1992 differences, the last year when the tax rate was
8 34% an additional \$1,167,619 of revenue deficiency exists. Bay State proposes to
9 amortize this deficiency over the remaining amortization period or 13.0334 years.
10 As detailed on Schedule JES-11, the proposed amortization totals \$263,604;
11 \$174,017 as previously approved and \$89,587 for the additional deficiency.

12

13 H. Rate of Return and Capital Structure Summary

14 Q. Please describe how you determined Bay State's rate of return for ratemaking
15 purposes.

16 A. Schedule JES -12 presents Bay State's test year-end capital structure and costs of
17 common stock equity, preferred equity and long-term debt as adjusted. Mr. Paul
18 R. Moul provided me the capital structure and associated costs as shown on
19 Schedule JES -12. Please refer to Moul Testimony (Exhibit BSG/PRM -1) for an
20 explanation of the derivation of these numbers.

21

1 I. Rate Base

2 1. Summary

3 Q. In computing rate base, has Bay State complied with Department precedent?

4 A. Yes, it has. In accordance with Department standards, Bay State has used actual
5 per books amounts as at the end of the test year for Utility Plant in Service,
6 Reserve for Depreciation and Amortization, Reserve for Deferred Income Taxes
7 and Customer Deposits. All included test year plant is used and useful in the
8 service of customers except, as discussed earlier in my testimony, the Metscan
9 meter reading devices. The level of Inventories included in rate base is based on
10 the average of the thirteen month-end balances of the test year.

11
12 Q. Have you made pro forma adjustments to test year rate base?

13 A. In limited fashion only as described in the next section. Otherwise, the rate base
14 level for Bay State relies on the company's books and records for capital and
15 plant additions.

16
17 2. Bay State/NIPSCO and Lawrence Goodwill

18 Q. Please describe your adjustments for Goodwill.

19 A. I have eliminated the net goodwill included in the Company's utility property
20 related to the Bay State/NIPSCO merger and Lawrence Gas merger. As shown
21 Schedule JES -13, Page 2 of 4, I eliminated \$445,906,987 from utility plant,

1 account Miscellaneous Intangible Plant (account number 303), and \$70,541,969
2 from accumulated Amortization of Intangible Plant.
3

4 3. Metscan Meter Reading Devices

5 Q. Is this adjustment related to the amortization on Metscan discussed earlier?

6 A. Yes. As I discussed earlier, three adjustments are necessary to properly reflect the
7 proposed recovery of the Metscan costs. This adjustment is the third and final
8 entry. It adjusts year end rate base for a large portion of the devices that were on
9 the books at December 31, 2004 that were retired in March 2005 since they were
10 no longer used and useful. I am eliminating from rate base the net plant balance
11 and related deferred income taxes of the Metscan devices that were retired in
12 March 2005. As I mentioned earlier, the net book value of this plant is being
13 transferred to a regulatory asset in view of the Company's request to recover this
14 cost over 5 years. Schedule JES -13, Page 3 of 4 details the adjustments by the
15 various components of rate base.
16

17 4. Completed Construction in Service

18 Q. What is Construction Work in Progress?

19 A. Construction Work in Progress, or CWIP, is a holding account that captures the
20 expended detailed costs incurred in the design and construction of revenue and
21 non-revenue producing rate base additions. At the point the additions are used
22 and useful, even if a construction contract remains open, the value of the costs

1 accumulated in CWIP to date associated with the project is moved into a plant
2 ledger asset account. Amounts accumulated in CWIP represent actual cost
3 incurred for plant, so this value is integral to establish the cost or improvement
4 cost of plant.

5
6 Q. Is CWIP included in rate base?

7 A. The Department does not provide for constructed plant to be included in rate base
8 until it is in service. Generally, interest during construction is recorded to
9 compensate the utility for the time value of money until the plant is in service
10 providing value to the company and customers.

11
12 Q. Have you excluded CWIP from Bay State's rate base?

13 A. Yes I have. However, I have reduced the exclusion for those non-revenue
14 producing plant additions that have been completed, but due to the lag in
15 accounting, have not been transferred to Utility Plant in Service. The adjustment
16 to CWIP is shown on Schedule JES -13, Page 4 of 4.

17
18 Q. Has the Department allowed such adjustments in the past?

19 A. Yes. In Bay State's last general rate case (DPU 92-111) the Department approved
20 the inclusion of \$125,000 of completed construction that was in service but not
21 yet classified to Utility Plant in Service.

1 5. Allowance for Other O&M Cash Working Capital

2 Q. Has a cash working capital allowance been proposed in Bay State's rate base?

3 A. Yes.

4

5 Q. What amount of cash working capital does Bay State propose to include in
6 rate base?

7 A. Bay State proposes to include \$11,453,613 of cash working capital related to
8 Other Operating and Maintenance Expense in distribution rate base. Bay
9 State's cash working capital allowance is presented on Schedule JES -14
10 (calculation of cash working capital) and shown as a component of rate base
11 on Schedule JES -13, Page 1 of 4, Line 4.

12

13 Q. Was the allowance for cash working capital supported by a lead lag study?

14 A. Yes. I prepared a detailed lead lag study (Lead/Lag Study), as requested by Mr.
15 Bryant, and it is included in this filing as Exhibit BSG/JES -2. I describe the
16 Lead/Lag Study and its findings and recommendations later in my testimony.

17

18 6. Material and Supplies Inventory

19 Q. How did you determine the level of material and supplies inventories to
20 include in rate bases?

21 A. I used a thirteen-month average of material and supplies inventories. Schedule
22 JES-15 shows the detail of the thirteen-month average of the Inventories

1 component of rate base, which consists of various materials and supplies
2 (including pipe stock) used in Bay State's distribution operations. Inventories do
3 not include gas inventories.
4

5 J. Department Schedules

6 Q. Did you provide the nine schedules required by the Department?

7 A. Yes. The Department's schedules are included as Schedule JES -16, Pages 1
8 though 9.
9

10 V. **LEAD LAG STUDY**

11
12 Q. You mentioned earlier in your testimony that you prepared a lead lag study.

13 Is that correct?

14 A. Yes. Mr. Bryant asked me to have a lead lag study prepared to update the net
15 lag days associated with Purchased Gas working capital collected via the Cost
16 of Gas Adjustment ("CGA") and establish the net lag days to be used for
17 Other O&M Expense working capital that will be included in base rates. The
18 Lead/Lag Study is included in the filing as Exhibit BSG/JES -2.
19

20 Q. What is cash working capital?

1 A. Cash working capital is the amount of capital that is needed by Bay State to
2 fund the time period between the receipt of payment of utility service and the
3 disbursements required to render that service.

4

5 Q. What are the components of cash working capital?

6 A. In Massachusetts, the cash working capital allowance is divided into two
7 components – (1) Purchased Gas, and (2) Other Operations and Maintenance
8 expense (“Other O&M”) to accommodate the assignment of recovery of the
9 Purchased Gas component through the CGA and the Other O&M expense
10 component through base rates.

11

12 Q. Please describe the lead lag study and its findings.

13 A. The lead lag study (Lead/Lag Study) consists of 15 schedules with Schedule
14 WC-1 summarizing the Purchased Gas Working Capital net lag days and the
15 Other O&M Working Capital net lag days. Schedules WC –2 through WC –4
16 support the Purchased Gas lag days and Schedules WC –5 through WC –15
17 support the Other O&M net days. The Lead/Lag Study produced a Purchased
18 Gas net lag of 25.30 days or 6.932% (25.30/365), and 42.21 days or 11.564%
19 (42.21/365) for Other O&M expense.

20

1 A. Purchased Gas

2 Q. What expense, incurred by Bay State, is Purchased Gas Cash Working Capital
3 intended to address?

4 A. Purchased Gas Cash Working Capital provides cash working capital for
5 expenses paid by Bay State on customers' behalf to gas suppliers, pipeline
6 transportation providers and supplemental gas providers.

7
8 Q. How is Purchased Gas Cash Working Capital recovered as a cost component
9 in Bay State's tariff?

10 A. As noted earlier, Purchased Gas Cash Working Capital is recovered as a
11 separate cost component in Bay State's Cost of Gas Adjustment Clause
12 ("CGAC") tariff. As such, the Purchased Gas Cash Working Capital
13 allowance has been removed from the total cash working capital included in
14 distribution rate base as shown on Schedule JES-14. However, at the time of
15 Bay State's next CGAC filing, the cash working capital component of the
16 CGAC will be appropriately updated for the results of the Lead/Lag Study
17 presented in this proceeding.

18
19 Q. How has the number of days related to the Purchased Gas Cash Working
20 Capital changed since the last Lead/Lag Study?

21 A. As Shown in the table below, the Purchased Gas net lag days reflected in the
22 November 2004 CGA, which were based on the days approved at DPU 92-

111, averaged approximately 30.27 days. My study produced a net lag day for
Purchased Gas of 25.30 days, a reduction of 4.97 days.

TABLE JES - 2

<u>Component</u>	<u>2005 Proposed</u>	<u>DPU 92-111</u>	<u>Change</u>
Revenue Lag:			
Meter Read	15.29	15.20	.09
Collection	46.15	48.01	-1.86
Billing	<u>1.20</u>	<u>3.29</u>	<u>-2.09</u>
Total Revenue	62.64	66.50	-3.86
Purchased Gas	<u>37.34</u>	<u>36.23</u>	<u>-1.11</u>
Purchased Gas –Net	25.30	30.27	-4.97

Q. How was the Purchased Gas net lag days calculated?

A. I based the Purchased Gas net lag days upon data for the twelve months ended
December 31, 2004. The revenue lag days were based on the average
accounts receivable turn over method and the purchase gas lead on the
supplier invoices paid during the test year.

Q. Please define the terms “revenue lag days” and “expense lead days.”

A. Revenue lag is the time, measured in days, between delivery of a service to
Bay State’s customers and the receipt by Bay State of the payment of such
service. Similarly, expense lead is the time, again measured in days, between

1 the delivery of a service to Bay State by a vendor and payment of such service
2 by Bay State. The revenue lag results in a need for capital while the expense
3 lead offsets this need to the extent the company can properly delay payment of
4 its labor, material & supplies, and other expenses.

5
6 Q. How is the revenue lag computed?

7 A. The revenue lag consists of a "meter reading or service lag," "collection lag"
8 and a "billing lag". The sum of the days associated with these three lag
9 components is the total revenue lag experienced by Bay State. See Exh.
10 BSG/JES -2; Schedule WC -2.

11
12 Q. What lag does the Lead/Lag Study reveal for the component "service or meter
13 reading lag?"

14 A. The Lead/Lag Study reveals 15.29 days. This lag was obtained by dividing
15 the number of billing days in the test year by twelve months and then in half
16 to arrive at the midpoint of the monthly service periods.

17
18 Q. How was the "collection lag" calculated and what was the result?

19 A. The "collection lag" for utility service totaled 46.15 days. This lag reflects the
20 time delay between the mailing of customer bills and the receipt of the billed
21 revenues from customers. The 46.15 days lag was arrived at by a thorough
22 examination of utility service accounts receivable balances for sales and

1 transportation accounts using the accounts receivable turnover method. End
2 of month balances were utilized as the most accurate measure of customer
3 accounts receivable. Under the accounts receivable turnover method, twelve
4 month-end balances of accounts receivable were averaged and divided by the
5 average daily gas revenue to arrive at the "collection lag." See Exh. BSG/JES
6 -2; Schedule WC -2.

7
8 Q. How did you arrive at the 1.2 days "billing lag"?

9 A. Most of Bay State's customers are billed the evening after the meters are read.
10 Certain large customers require additional time to process the billing data plus
11 exceptions pushed the one day lag for most customers to 1.2 days.

12
13 Q. Is the total revenue lag computed from these separate lag calculations?

14 A. Yes. The total revenue lag of 62.64 days is computed by adding the number
15 of days associated with each of the three revenue lag components. See Exh.
16 BSG/JES -2; Schedule WC -2.

17 This total number of lag days represents the amount of time between the
18 recorded delivery of service to customers and the receipt of the related
19 revenues from customers.

1 Q. Now let's turn to the lead periods in the Lead/Lag Study. In determining the
2 expense lead period, how were the weighted days lead in payment of
3 purchased gas costs determined?

4 A. To determine the expense lead associated with purchased gas, all supplier
5 invoices were identified (via a simple computer search of the company's gas
6 accounting system) that was paid during the test year. The number of days we
7 calculated for each invoice from the midpoint of the service period to the date
8 the invoice was paid. The days were dollar weighted, totaled and averaged to
9 arrive at an overall weighted average purchase gas expense lead. See Exh.
10 BSG/JES -2; Schedule WC -4.

11
12 Q. How is the total Purchased Gas Lag determined?

13 A. The lead in payment of purchased gas costs of 37.34 days is subtracted from
14 the lag in receipt of revenue of 62.64 days to produce the total Purchased Gas
15 Lag of 25.30 days. See Exh. BSG /JES -2; Schedule WC-4 See Exh.
16 BSG/JES -2; Schedule WC -2.

17 B. Other O&M Cash Working Capital

18 Q. What is Other O&M Cash Working Capital?

19 A. The Other O&M Cash Working Capital component is composed of O&M
20 expense (predominantly payroll, employee and retiree benefits). These are
21 types of expenses that Bay State pays to underwrite the activities conducted in
22 service to customers before it receives payment from customers for those

1 services. It is appropriate for Bay State to recover its carrying cost for this
2 service.

3

4 Q. Did Bay State recover Other O&M Cash Working Capital in its last base rate
5 proceeding?

6 A. Yes, it did. Bay State recovered Other O&M Cash Working Capital
7 consistent with the 45-day convention.

8

9 Q. Please explain what you mean by 45-day convention.

10 A. The 45-day convention and sometime called the FPC or FERC formula is a
11 simplified formula which assumes a net 45 day lag in determining cash
12 working capital. The 45-day convention was developed years ago and
13 because of the complexity and cost of lead lag studies became widely
14 accepted.

15

16 Q. Did your Lead/Lag Study calculate Other O&M Expense lag days for this
17 proceeding?

18 A. The Lead/Lag Study calculated Other O&M Expense lag days.

19

20 Q. How did you calculate Bay State's Other O&M Expense lead days?

21 A. Similar to the effort undertaken for Purchased Gas, the Other O&M Expense
22 lead days are based upon data for the twelve months ended December 31,

1 2004, adjusted for known and measurable changes. As reflected on Sch. JES
2 -14, the revenue lag and expense lead days resulting from the Lead/Lag Study
3 have been applied to adjusted test year O&M amounts to determine Bay
4 State's cash working capital requirements to be included in rate base.
5

6 Q. Are the terms "lag days" and "lead days" in this Lead/Lag Study the same as
7 that defined for Purchased Gas?

8 A. Yes, they are. Once again, lag days are computed between Bay State and its
9 customers, and are the number of days between delivery of a service to Bay
10 State's customers and the receipt by Bay State of payment and availability of
11 funds for the service (revenue lag). Lead days are computed as between Bay
12 State and its vendors and are the number of days between the average delivery
13 date goods and services are purchased by Bay State or rendered by a vendor
14 and the wire/Automated Clearing House (ACH) payment or depository bank
15 clearing date (expense lead) of the payment made by Bay State for those
16 goods and services.
17

18 Q. How is the O&M revenue lag computed?

19 A. As with the Purchased Gas lag days, revenue lag is computed in days,
20 consisting of three time components: (1) from receipt of service to meter
21 reading; (2) from meter reading to billing; and (3) from billing to collection.
22 The sum of the days associated with these three lag components is the total

1 revenue lag experienced by Bay State. See Exhibit BSG/JES-2; Schedule WC

2 -5.

3

4 Q. What is the total revenue lag you computed?

5 A. The total revenue lag is 62.83 days. As with the Purchased Gas lag days, this
6 total number of lag days represents the amount of time between the recorded
7 delivery of service to customers and the receipt of the related revenues from
8 customers.

9

10 Q. Is this the same revenue lag used for the Purchased Gas working capital?

11 A. No. The revenue lag for Purchased Gas was based on gas service only.
12 Activities related to Energy Products and Services ("EP&S") and rental
13 income were excluded from the revenue lag calculation for Purchased Gas.
14 All though billing for the EP&S occurs concurrently through Bay State's
15 billing system, a slightly greater lag in receipt of payment occurs.

16

17 Q. Are the EP&S customer accounts and revenue accounted for separately?

18 A. Yes. Separate accounts receivable for the EP&S activities are maintained as
19 well as EP&S revenue are categorized on Bay State's books and records. The
20 same technique, accounts receivable turnover method, was used to determine
21 the overall revenue lag for Other O&M Expense working capital. The

1 revenue lag for Other O&M Expense working capital is shown in See Exhibit
2 BSG/JES -2; Schedule WC -5.

3
4 Q. Are the lead periods in the Lead/Lag Study the same as those computed for
5 the purpose of determining the lead in the Purchased Gas Working Capital
6 analysis?

7 A. No. Because the lead period is determined as between Bay State and the
8 various vendors of goods and services, an individual analysis must be
9 undertaken.

10
11 Q. In determining the expense lead period, how were the weighted lead days in
12 payment of O&M costs determined?

13 A. First total O&M expense excluding gas costs was broken down into ten major
14 cost categories. They are shown on Exh. BSG/JES; Schedule WC -7.
15 Payments were reviewed and the lead days were calculated for each category.
16 Depending on the volume and dollar amount of the payments, either all or a
17 sampling of, the payments were included in the calculation. Once the lead
18 days for each category was determined, they were summarized and dollar
19 weighted to arrive at an overall Other O&M expense lead days. See Exh.
20 BSG /JES -2; Schedule WC -7.

21
22 Q. Briefly describe the lead days calculated for each category.

1 A. The payroll lead is shown on Schedule WC -8. Bay State has three individual
2 pay groups: bi-weekly, weekly union and weekly non-union. The bi-weekly
3 group is paid one day before the end of the pay period and the weekly group is
4 paid six days after the pay period. This results in an overall weighted lead of
5 8.86 days.
6

7 Q. What were zero days assigned to Pension and Postretirement Benefits Other
8 Than Pensions ("PBOP") costs?

9 A. Bay State has proposed to include its Pension/PBOP costs in its LDAC. The
10 proposal, similar to that approved by the Department at D.T.E. 03-40,
11 provides for working capital on prepaid and/or net accrual amounts.
12 Therefore, zero days were reflected in the Lead/Lag Study. Other Benefits are
13 convenience billed to Bay State on a monthly basis, and as shown on Schedule
14 WC -9 has a 12.27 days lead. System Management costs or NiSource
15 Corporate Services Contract Billing are charged to Bay State the month
16 following the month the services were provided. This delay results in a 42.69
17 day lead as shown on Schedule WC -10.
18

19 Q. Why was zero days were assigned to uncollectibles?

20 A. The lag in uncollectibles accounts were considered in developing the
21 "collection lag" component of the revenue lag. Customers' accounts

1 receivables – net of the provision for bad debts were used when calculating
2 the average accounts receivable balance.
3

4 Q. Continue please.

5 A. Rent for the Westborough headquarters, Itron meter reading devices and the
6 LNG facilities make up virtually all the cost of the Rent and Lease category.
7 The payments for these items were reviewed as shown on Schedule WC –11
8 and the resulting 19.17 days was used for this category. Due to the number of
9 payments for the cost categories Outside Services, Material and Supplies,
10 Utilities and other O&M Costs, a sampling of 40 invoices from each category
11 from October 2004 were selected from the company's accounts payable
12 system. The lead days were calculated for each category and shown on
13 Schedule WC –12 through Schedule WC –15, respectively. The results were
14 used for their respective cost category.
15

16 Q. How is the total O&M Lag determined?

17 A. The lead in payment for the cost of goods and services purchased of 20.62
18 days is subtracted from the lag in receipt of customer revenue of 62.83 days to
19 produce the total O&M Lag of 42.21 days. See Exh. BSG /JES –2, Schedule
20 WC -1.
21

1 Q What is the Department's most recent pronouncement regarding use of a 45-
2 day lag appropriate for computing the Other O&M Cash Working Capital
3 requirements?

4 A While the Department stated in D.T.E. 98-51 that utilities were encouraged to
5 consider and offer cost-effective alternatives that produce lower working
6 capital requirements than the 45-day convention, the Department has stated
7 that it did not want expensive and unnecessary lead-lag studies submitted in
8 rate case proceedings.

9
10 Q Did Bay State comply with this standard?

11 A Yes. The lead lag study produced lower results than the 45-day convention
12 ensuring savings for customers. Regarding cost, I prepared the lead lag study
13 while providing services for Bay State through NCSC. The regulatory
14 function at NCSC has prepared lead lag studies for most of its distribution
15 companies for the past three decades. The process has been standardized
16 allowing for the accumulation of needed information efficiently and
17 accurately.

18
19 Q Would you summarize Bay State's testimony regarding Cash Working
20 Capital?

21 A Yes. The Purchased Gas Cash Working Capital component has been removed
22 from the cost of service and will be recovered in accordance with Bay State's

1 CGAC tariff. The O&M Cash Working Capital component is 42.21 days or
2 11.564%. For purpose of my revenue requirement analysis, the cash working
3 capital component proposed for inclusion in the distribution rate base is
4 \$11,453,613, which represents the cash working capital allowance calculated
5 for Other O&M Expense. See Schedule JES -14.
6

7 **VI. STEEL INFRASTRUCTURE REPLACEMENT BASE RATE**
8 **ADJUSTMENT**
9

10 Q. What is the Steel Infrastructure Replacement base rate adjustment?

11 A. The Steel Infrastructure Replacement ("SIR") base rate adjustment is the
12 proposed filing mechanism to request an annual increase in base rates to recover
13 the costs related to Bay State's SIR program. As explained by Mr. Bryant, Bay
14 State has implemented the SIR program with an annual incremental capital
15 expenditure of approximately \$20 million to replace its bare steel and unprotected
16 mains, services and related facilities. To recover the cost of this program, Bay
17 State has proposed a SIR adjustment to be filed annually with an annual increase
18 in base rates effective November 1.
19

20 Q. What costs will be included in the SIR adjustment?

21 A. All direct program costs will be included in the SIR adjustment such as
22 depreciation, property taxes, carrying costs, income taxes and return on

1 investment. As savings occur through lower main corrosion leak repair activity, a
2 reduction in O&M expense will be factored into the SIR adjustment.

3
4 Q. Did you create the schedule Bay State proposes to use in developing the annual
5 revenue increase related to the SIR adjustment?

6 A. Yes. Schedule JES -17, consisting of 12 pages, calculates for illustrative
7 purposes the annual revenue increase needed as a result of an additional year's
8 activity of the SIR program. To illustrate Schedule JES -17, I assumed Bay State
9 is in the second year of the SIR program, invested \$20 million over the
10 benchmark level each of the first two years and requesting its second increase. In
11 this *exemplar*, the SIR program has resulted in lower leak repair activity of 64
12 incidents. Page 1 presents the net rate base, Line 5, resulting from the
13 improvements made under the SIR program and calculates the total revenue
14 requirement, Line 10. Previously approved revenue increases are listed and
15 totaled on Line 14 and subtracted from the total revenue requirement to arrive at
16 the additional gross annual increase, Line 15. On Line 16, an O&M Leak Repair
17 Offset is provided customers to arrive at the Net Additional Revenue Requirement
18 as shown on Line 17.

19
20 Q. Why are you calculating the revenue requirement on the accumulated program
21 activity opposed to the annual additions?

1 A. Changes occurring over time provide benefits to Bay State such as deferred
2 income taxes. Also recovery of costs such as depreciation must be recognized to
3 properly assess the incremental cost to ratepayers from year to year.

4
5 Q. Please describe pages 2 through 12 of Schedule JES -17.

6 A. Page 2 determines the additions eligible for inclusion in the SIR adjustment.
7 Since Bay State cannot readily identify the replacement expenditures specific to a
8 new steel replacement program, total steel pipe replacements are reduced by a
9 four year historic average of steel replacements. Total replacements are shown in
10 Column 1 with the four-year average shown in Column 2. Column 3 shows the
11 eligible additions that are determined by subtracting Column 1 from Column 2.
12 Page 4 presents the four-year average of Historical Base Steel Replacement
13 Capital Expenditures. Page 4 lists by gas plant account the total expenditures for
14 steel pipe replacement accumulated plant additions. The beginning of the year
15 balances are shown in Column 2 with the direct costs listed in Column 3, the
16 overheads in Column 4 and total annual additions in Column 5. The ending
17 balances are shown in Column 6, Page 4.

18
19 Q. Are all the gas plant accounts that will be affected listed on Page 2?

20 A. Bay State expects only those accounts listed to be included in the SIR adjustment,
21 however, some other accounts could be impacted which will be added to the list.
22 In addition, any retirements will be recognized and reduce the additions.

1

2 Q. Please continue with the remaining pages.

3 A. Page 5 summarizes by gas plant account the reserve for depreciation, while Page
4 6 calculates the depreciation expense. The depreciation rates used are those
5 proposed by Mr. Earl Robinson for the respective accounts. A half-year
6 depreciation is recognized on current year additions reflecting additions placed
7 into service over the construction period. Page 7 calculates the accumulated
8 deferred incomes resulting from accelerated depreciation taken for tax purposes.
9 The accumulated cash benefit shown in Column 18 is passed on to customers by
10 reducing rate base. Page 8 calculates property taxes on taxable net plant.
11 Currently, only mains and services are taxable.

12

13 Q. How did you arrive at the tax rate shown on line 8?

14 A. The proposed property tax rate is a composite based on total property taxes paid.
15 Property tax rates vary from taxing authority to taxing authority. The SIR
16 program covers Bay State's total operating territory. Since it will be virtually
17 impossible to identify the change in property taxes on a timely basis, Bay State
18 propose to use a composite rate. The composite rate will be lower than some of
19 the taxing authorities and higher than other, however, over the life of the SIR
20 program, it is expected to even out.

21

1 Page 9 calculates the carrying costs on the new additions incurred from the end of
2 the calendar year up to November 1 when the rates are increased to recover the
3 additional costs. The carrying costs are based on the pre-tax rate of return
4 approved by the DTE at the end of this proceeding. Page 10 presents the
5 proposed capital structure and pre-tax and after tax returns.
6

7 Q. Please explain the O&M Leak Repair Offset.

8 A. The O&M Leak Repair Offset ("O&M Offset") recognizes O&M Expense
9 savings that occur through lower main corrosion leak repair activity. The O&M
10 Offset is determined by comparing the leak repair activity of the previous year's
11 SIR program year to the four-year average of leak activity for the period 2000,
12 through 2004. The number of leak repairs below the average is applied to the
13 four-year average cost of leak repairs to arrive at the O&M Offset. Page 11 of 12,
14 illustrates an O&M Offset of \$45,932 based on an average cost of \$1,021 (as
15 reflected in the Cote Testimony) and a reduced number of leak repairs of 45. The
16 O&M Offset is carried forward to Page 1 reducing the Gross Revenue Request.
17 Page 12 presents the four year main Corrosion Leak Repair Cost and Volume, and
18 in addition, calculates the average that is used on Page 11.
19

20 Q. How will the revenue increase be assigned to the various rate schedules?

21 A. Mr. Joe Ferro explains, in his direct testimony, the assignment of the revenue
22 increase to the various rate schedules.

1

2 **VII. OTHER SUPPORTING EXHIBITS**

3

4 Q. Have you summarized the Metscan adjustments and calculated the revenue
5 requirement related to the Metscan devices?

6 A. Yes. Exhibit BSG/JES -3, Metscan Recovery Request, consists of two pages.

7 Page 1 provides a list or summary of the adjustments that have been made in
8 developing Bay State's revenue requirement and revenue deficiency.

9 Page 2 shows the revenue requirement impact related to Metscan. On the top half
10 of Page 2, I have calculated the revenue requirement of the Metscan devices based
11 on the unadjusted test year amounts. The revenue requirement is \$4,766,311 as
12 shown on Line 18. On the second half of Page 2, I have applied the adjustments
13 for Metscan, as shown on Page 1, to the revenue requirement. The adjustments
14 reduce the \$4,766,311 down to \$2,854,777, which reflects the amortization of cost
15 and the depreciation, return and income taxes on the remaining 2,000 plus units
16 still in use after the end of the test year.

17

18 Q Why did you provide this Exhibit?

19 A. Since the adjustments affect a number of components of the revenue requirement,
20 I thought it would be helpful to presents the adjustments on one document.
21 Furthermore, Page 2 identifies the reduction in cost from the test year level
22 resulting from the pro form adjustments made by Bay State.

1

2 Q. Please explain Exhibit BSG/JES -4.

3 A. Mr. Barkauskas in his testimony, see Exhibit BSG/SAB -1, describes Bay State 's
4 request for recovery of pension and PBOP costs, a request that is similar to that
5 granted by the Department for Boston Gas. As explained by Joseph A. Ferro in
6 his testimony at Exh. BSG/JAF -1, the 2004 test year level of pension and PBOP
7 expense will be the base amount to be included in Bay State's Pension and PBOP
8 Mechanism ("PPM") for recovery. Exhibit BSG/JES -4 extracts the net 2004
9 Pension and PBOP expense level included in test year O&M expense. In
10 accordance with PPM, each year's expense level will be compared to this base
11 amount, and the difference will be deferred for recovery over the next three years.
12 In determining each year's expense level, Bay State will develop the current
13 year's pension/PBOP expense using the components identified in Exh. BSG/JES
14 -4.

15

16 Q. Please describe Exhibit BSG/JES -5.

17 A. Exhibit BSG/JES -5 includes copies of advertising materials that Bay State has
18 used during the test year to inform customers of the services it provides. Each
19 item has been assigned a reference number, 1 through 11. Exhibit BSG/JES -5
20 includes a summary that describes for each item the type of advertising material
21 or medium, various cost components and the total cost. The reference number is
22 shown in Column 1 of the Summary in order to cross reference the item to the

1 information on the Summary. Most of the advertising material is related to Bay
2 State's EP&S business, and as explained by Mr. Bryant in his testimony (Exh.
3 BSG/SHB-1), EP&S provides direct benefit to Bay State's Customers. Bay State
4 is seeking recovery of all the costs included in Exhibit BSG/JES-5.

5
6 Q. Explain Exhibit BSG/JES -6.

7 A. As discuss earlier in my testimony, Exhibit BSG/JES -6 presents the charges
8 from NCSC for the test year that was included in O&M Expense. Page 3 of 3
9 shows the costs related to Bay State Management activity and the billings to
10 affiliates specifically Northern for providing management and technical services.
11 It also presents the billings from Northern to Bay State for services provided to
12 Bay State out of the Portsmouth, NH office.

13
14 **VIII. CONCLUSION**

15
16 Q. Does this conclude your testimony?

17 A. Yes, subject to reserving my right to respond to additional issues raised in
18 discovery or at hearings.



Bay State Gas Company
Revenue Requirement
Test Year Ended December 31, 2004

Line No.	Description	Per Books (1) \$	Adjustments (2) \$	Adjusted Books (3 = 1 + 2) \$	Proposed Revenue Increase (4) \$	Revenue Requirement (5 = 3 + 4) \$	Proposed % Increase (6 = 4 / 3)	Reference (7)
1	Operation Revenue	510,457,335	(28,548,082)	481,909,253	22,238,326	504,147,579	4.61%	Sch. JES - 4
2	Operating Expenses:							
3	Cost of Gas	323,863,512	(16,384,861)	307,478,651	0	307,478,651		Sch. JES - 5
4	O&M Expense	99,007,484	37,945	99,045,429	482,572	99,528,001		Sch. JES - 6, Page 1 of 20
5	Depreciation	24,126,707	4,674,251	28,800,958	0	28,800,958		Sch. JES - 7, Page 1 of 4
6	Amortization	15,036,749	(8,483,854)	6,552,895	0	6,552,895		Sch. JES - 8, Page 1 of 3
7	Taxes Other Than Income	9,665,342	401,823	10,067,165	0	10,067,165		Sch. JES - 9, Page 1 of 4
8	Interest on Customer Deposits	0	72,506	72,506	0	72,506		Sch. JES - 10
9	Total Operating Expenses (Lines 3 through 8)	471,699,794	(19,682,190)	452,017,605	482,572	452,500,177		
10	Operating Income Before Income Taxes (Line 1 less Line 9)	38,757,540	(8,865,892)	29,891,648	21,755,754	51,647,402		
11	Income Taxes			7,175,558	8,533,695	15,709,253		Sch. JES - 11
12	Operating Income After Income Taxes (Line 10 less Line 11)			22,716,090	13,222,059	35,938,149		Sch. JES - 13, Page 1 of 4
13	Rate Base			397,106,628		397,106,628		
14	Return on Rate Base						9.05%	



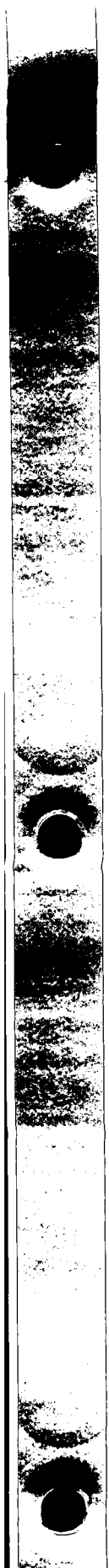
Witness: Skirtich
D. T. E. 05 - 27
Exh. BSG/JES-1
Schedule JES - 2

Bay State Gas Company
Revenue Deficiency Summary
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> (1) \$	<u>Reference</u> (2)
1	<u>Revenue Requirement Calculation</u>		
2	Rate Base	397,106,628	Sch. JES - 13, Page 1 of 4
3	Return on Rate Base	<u>9.05%</u>	Sch. JES - 12
4	Required Return	35,938,150	
5	Operating Income After Taxes	22,716,090	Sch. JES - 1
6	Shortfall (Ln. 4 Less Ln. 5)	13,222,060	
7	Revenue Requirement Factor	<u>1.6819</u>	Sch. JES - 3
8	Revenue Deficiency	22,238,326	

Bay State Gas Company
Computation of Revenue Requirement Factor
For The Twelve Months Ended December 31, 2004

Line No.	Description		Percentage of Incremental Gross Revenue (1)	Reference (2)
1	Operating Revenue		100.0000%	
2	Less: Uncollectible 3 Year Weighted Average			
3	Bad Debt Percentage		2.1700%	Sch. JES-6, Page 9 of 20
4	Net Revenues		97.8300%	(Ln 1 minus Ln 3)
5	State Franchise Tax	6.50%	<u>6.3590%</u>	(Ln 4 times 6.50%)
6	Income Before Federal Income Tax		91.4711%	(Ln 4 minus Ln 5)
7	Federal Income Tax @ 35%	35%	<u>32.0149%</u>	(Ln 6 times 35.0%)
8	Operating Income Percentage		59.4562%	(Ln 6 minus Ln 7)
9	Revenue Requirement Factor		<u>1.6819</u>	(100 % Divided By Line 8)



Bay State Gas Company
Operating Revenue Summary
Test Year Ended December 31, 2004

Line No.	Description	Per Books (1) \$	Adjustments (2) \$	Annualized Revenue at Current Rates (3) \$	Reference (4)
1	Residential Sales Revenue	334,824,296	(7,113,546)	327,710,750	Sch. JAF - 1-1
2	Comm/Industrial Sales Revenue	127,857,611	(3,652,138)	124,205,473	Sch. JAF - 1-1
3	Interruptible Sales Revenue	<u>2,904,376</u>	<u>(2,904,376)</u>	<u>0</u>	Sch. JAF - 1-1
4	TOTAL TARIFF REVENUES	465,586,283	(13,670,060)	451,916,223	
5	Residential Transportation of Gas	21,028	4,167	25,195	Sch. JAF - 1-1
6	Comm/Industrial Transportation of Gas	23,754,251	(777,408)	22,976,843	Sch. JAF - 1-1
7	Off System Sales	3,874,467	(3,874,467)	0	Sch. JAF - 1-1
8	Gas Property Revenue	1,513,333	0	1,513,333	Sch. JAF - 1-1
9	Rental Revenue	6,824,456	0	6,824,456	Sch. JAF - 1-1
10	Guardian Care/Inspections	7,690,936	0	7,690,936	Sch. JAF - 1-1
11	Lost Net Revenue	329,951	(329,961)	(10)	Sch. JAF - 1-1
12	Late Payment Charges	685,241	0	685,241	Sch. JAF - 1-1
13	Return Check Charge	27,736	0	27,736	Sch. JAF - 1-1
	Carrying Costs-Pre tax of Rate of Return	(988,819)	988,820	1	Sch. JAF - 1-1
	Prod & Storage Revenues	1,044,497	8,085,135	9,129,632	Sch. JAF - 1-1
16	Customer R&C Shut-off Turn-off	<u>93,975</u>	<u>0</u>	<u>93,975</u>	Sch. JAF - 1-1
17	TOTAL OTHER OPER. REVENUES	44,871,052	4,096,286	48,967,338	
18	Elimination of Indirect GAF and DAF	0	(26,092,473)	(26,092,473)	Sch. JAF - 1-1
19	Add back Bad Debt Exp. Included in Indirect Gas Cost	<u>0</u>	<u>7,118,165</u>	<u>7,118,165</u>	Sch. JAF - 1-1
20	TOTAL REVENUE	<u>510,457,335</u>	<u>(28,548,082)</u>	<u>481,909,253</u>	



Bay State Gas Company
Revenue Requirement Summary
Test Year Ended December 31, 2004

Line No.	Description	Per Books (1) \$	Adjustments (2) \$	Adjusted (3) \$	Reference (4)
1	Total Cost of Gas	323,863,512	(16,384,861)	307,478,651	Sch. JAF - 1-1
2	Other Operating & Maintenance Expenses	99,007,484	37,945	99,045,429	Sch. JES - 6, Page 1 of 20
3	Bad Debt on Proposed Rate Increase	0	482,572	482,572	Sch. JES - 1
4	Total Operating & Maintenance Expenses (Line 1 plus Lines 2 & 3)	422,870,996	(15,864,344)	407,006,652	
5	Depreciation Expense	24,126,707	4,674,251	28,800,958	Sch. JES - 7, Page 1 of 4
6	Amortization of Utility Plant	15,036,749	(8,483,854)	6,552,895	Sch. JES - 8, Page 1 of 3
7	Taxes Other Than Income	9,665,342	401,823	10,067,165	Sch. JES - 9, Page 1 of 4
8	Interest on Customer Deposits	0	72,506	72,506	Sch. JES - 10
9	Federal Income & Mass State Franchise Tax	11,571,079	4,138,174	15,709,253	Sch. JES - 11
10	Return on Rate Base	27,186,461	8,751,688	35,938,149	Sch. JES - 1
11	Total Other Items	87,586,339	9,554,588	97,140,927	
12	Total Revenue Requirement (line 4 plus Line 12)	510,457,335	(6,309,756)	504,147,579	



Bay State Gas Company
Adjustments to Operating and Maintenance Expense Summary
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> (1) \$	<u>Reference</u> (2)
1	Payroll Adjustment - Union	1,173,418	Sch. JES - 6, Page 2 of 20
2	Payroll Adjustment - Non-Union	443,840	Sch. JES - 6, Page 2 of 20
3	Incentive Compensation	(124,422)	Sch. JES - 6, Page 3 of 20
4	Medical and Dental Insurance	741,045	Sch. JES - 6, Page 4 of 20
5	Property & Liability Insurance Expense	94,997	Sch. JES - 6, Page 5 of 20
6	Self Insurance Claims	80,021	Sch. JES - 6, Page 6 of 20
7	Gain on Sale of Property	(408,197)	Sch. JES - 6, Page 7 of 20
8	Rate Case Expense	331,700	Sch. JES - 6, Page 8 of 20
9	Bad Debt Expense - Gas Revenue	7,106,032	Sch. JES - 6, Page 9 of 20
10	Bad Debt Expense - EP&S	246,232	Sch. JES - 6, Page 10 of 20
11	NiSource Corporate Services Company	748,122	Sch. JES - 6, Page 11 of 20
12	Charitable Contributions	(147,271)	Sch. JES - 6, Page 12 of 20
13	Amortization of Deferred Farm Discount Credits	15,320	Sch. JES - 6, Page 13 of 20
14	Postage	67,947	Sch. JES - 6, Page 14 of 20
15	Research and Development Costs Related to GTI Activity	310,000	Sch. JES - 6, Page 15 of 20
16	Itron Lease Payment	310,104	Sch. JES - 6, Page 16 of 20
17	Metscan Meter Reading Lease Payment	(2,919,051)	Sch. JES - 6, Page 17 of 20
18	CGA & LDAC Recoverable Costs	(9,227,167)	Sch. JES - 6, Page 18 of 20
19	Inflation	<u>1,195,274</u>	Sch. JES - 6, Page 19 of 20
20	Total Operating and Maintenance Expense Adjustments	<u>37,945</u>	

Bay State Gas Company
Adjustments to Operating Expenses - Bay State Payroll Adjustment Union and Non-Union
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Union</u> (1) \$	<u>Non-Union</u> (2) \$	<u>References</u>
1	<u>2004 Payroll (Test Year)</u>			
2	Straight Time	22,009,509	5,407,913	Union: WP JES-6 (P.2; L.2)
3				Non-Union: WP JES-6 (P.3; L.2)
4	Overtime	<u>5,526,815</u>	<u>310,751</u>	Union: WP JES-6 (P.4; L.7)
5				Non-Union: WP JES-6 (P.10; L.2)
6	2004 Total Payroll (ln 2 + ln 4)	27,536,324	5,718,664	
7				
8	<u>2004 Payroll Adjustment *</u>			
9	Straight Time	235,513	246,335	WP JES-6 (P.1; L.7)
10	Overtime	<u>15,684</u>	<u>1,024</u>	WP JES-6 (P.1; L.8)
11	2004 Total Adjustment (ln 9 + ln 10)	251,197	247,359	
12				
13	<u>2005 Payroll Adjustment</u>			
14	Straight Time	355,487	95,881	WP JES-6 (P.1; L.16)
15	Overtime	<u>93,851</u>	<u>7,082</u>	WP JES-6 (P.1; L.17)
16	2005 Total Adjustment (ln 14 + ln 15)	449,338	102,963	
17				
18	<u>2006 Payroll Adjustment</u>			
19	Straight Time	375,882	88,655	WP JES-6 (P.1; L.25)
20	Overtime	<u>97,001</u>	<u>4,863</u>	WP JES-6 (P.1; L.26)
21	2006 Total Adjustment (ln 19 + ln 20)	472,883	93,518	
22				
23	<u>Total Payroll Adjustment</u>			
24	Straight Time (ln 9 + ln 14 + ln 19)	966,882	430,871	
25	Overtime (ln 10 + ln 15 + ln 20)	<u>206,536</u>	<u>12,969</u>	
26	Total Adjustment (ln 24 + ln 25)	<u>1,173,418</u>	<u>443,840</u>	

* Reflects annualization of payroll adjustments made in 2004.

Bay State Gas Company
Adjustments to Operating Expenses - Incentive Compensation
Test Year Ended December 31, 2004

Line No.	Description	Assigned To BSG (1) \$
	<u>Bay State Incentive Compensation</u>	
1	2003 Incentive Compensation Under Accrual Booked in 2004	
2	Amount Assigned to Bay State	97,306
3	Bay State's Portion of Billed Management Fee	<u>27,116</u>
4	Bay State's portion of 2003 Under Accrual	124,422
5	Test Year Adjustment	<u>(124,422)</u>

Bay State Gas Company
Adjustment To Operating Expenses - Medical and Dental Insurance
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> <u>(1)</u> \$	<u>Reference</u> <u>(2)</u>
1	<u>Test Year Medical and Dental Insurance Expense 12/31/04</u>		
2	BCBS Master Medical (IND)	466,900	WP-JES-6, Page 11, Ln 6
3	Harvard Pilgram HMO	957,700	WP-JES-6, Page 11 Ln 12
4	HMO Blue (BCBS-MA)	163,100	WP-JES-6, Page 11 Ln 18
5	UHC (POS) *	35,000	WP-JES-6, Page 11 Ln 24
6	United OOA	22,100	WP-JES-6, Page 11 Ln 30
7	Tufts HMO (Union)	1,245,600	WP-JES-6, Page 11 Ln 36
8	Anthem BCBS NH/ME HMO (Union)	34,300	WP-JES-6, Page 11 Ln 42
9	Health New England HMO	683,300	WP-JES-6, Page 12 Ln 6
10	BCBS Blue Choice (POS)*	338,900	WP-JES-6, Page 12 Ln 12
11	PPO	67,200	WP-JES-6, Page 12 Ln 18
12	Standard Plan 1	2,400	WP-JES-6, Page 12 Ln 24
13	Standard Plan 2	8,100	WP-JES-6, Page 12 Ln 30
14	BCBS Dental	295,100	WP-JES-6, Page 13 Ln 6
15	Basic Dental	27,400	WP-JES-6, Page 13 Ln 12
	Dental Plus	<u>45,400</u>	WP-JES-6, Page 13 Ln 18
	Total Test Year Medical and Dental Insurance 12/31/04	4,392,500	
18	<u>Medical and Dental Insurance Expense 12/31/05 Enrollment and Rates</u>		
19	BCBS Master Medical (IND)	451,100	WP-JES-6, Page 14 Ln 6
20	Harvard Pilgram HMO	1,130,300	WP-JES-6, Page 14 Ln 12
21	HMO Blue (BCBS-MA)	321,100	WP-JES-6, Page 14 Ln 18
22	UHC (POS) *	22,700	WP-JES-6, Page 14 Ln 24
23	United OOA	23,700	WP-JES-6, Page 14 Ln 30
24	Tufts HMO (Union)	1,660,400	WP-JES-6, Page 14 Ln 36
25	Anthem BCBS NH/ME HMO (Union)	84,000	WP-JES-6, Page 15 Ln 6
26	Health New England HMO	953,400	WP-JES-6, Page 15 Ln 12
27	BCBS Blue Choice (POS)*	0	WP-JES-6, Page 15 Ln 18
28	PPO	223,400	WP-JES-6, Page 15 Ln 24
29	Standard Plan 1	9,500	WP-JES-6, Page 15 Ln 30
30	Standard Plan 2	50,100	WP-JES-6, Page 15 Ln 36
31	BCBS Dental	197,000	WP-JES-6, Page 16 Ln 6
32	Basic Dental	125,800	WP-JES-6, Page 16 Ln 12
33	Dental Plus	<u>119,700</u>	WP-JES-6, Page 16 Ln 18
34	Total Medical and Dental Insurance Expense Annualized	5,372,200	
35	Medical and Dental Insurance Difference (Line 34 less Line 17)	979,700	
36	Percent to O&M Expense	<u>75.64%</u>	
37	Medical and Dental Insurance Adjustment (Line 35 times Line 36)	<u>\$741,045</u>	
38	* (POS) Point of Service		

Bay State Gas Company
Adjustment To Operating Expenses - Property & Liability Insurance Expense
Test Year Ended December 31, 2004

Line No.	Description	Annualized Expense (1) \$	2004 Test Year Expense (2) \$	2004 Adjustment (3 = 1 - 2) \$	Reference (4)
	<u>Policy</u>				
1	Primary Liability	187,340	300,863	(113,523)	WP-JES-6, Page 17, Ln 2 & Page 18, Ln 1
2	General Liability	659,428	528,957	130,471	WP-JES-6, Page 17, Ln 13 & Page 18, Ln 2
3	Workers Compensation	673,516	524,037	149,479	WP-JES-6, Page 17, Ln 18 & Page 18, Ln 3
4	Auto Liability	68,392	62,821	5,571	WP-JES-6, Page 17, Ln 22 & Page 18, Ln 4
5	SIR Buy Down Liability	191,175	191,380	(205)	WP-JES-6, Page 17, Ln 23 & Page 18, Ln 5
6	Property	97,869	107,798	(9,929)	WP-JES-6, Page 17, Ln 42 & Page 18, Ln 6
7	Directors & Officers Liability	489,661	493,903	(4,242)	WP-JES-6, Page 17, Ln 47 & Page 18, Ln 7
8	Fiduciary Liability	17,771	28,070	(10,299)	WP-JES-6, Page 17, Ln 49 & Page 18, Ln 8
9	Special Crime	1,285	53,981	(52,696)	WP-JES-6, Page 17, Ln 52 & Page 18, Ln 9
10	Bonds	<u>840</u>	<u>470</u>	<u>370</u>	WP-JES-6, Page 17, Ln 58 & Page 18, Ln 10
11	Total Premiums	2,387,277	2,292,280	<u>94,997</u>	

Bay State Gas Company
Adjustment To Operating Expenses - Self- Insurance Claims
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Workers Compensation</u> (1) \$	<u>General Liability</u> (2) \$	<u>Auto Liability</u> (3) \$	<u>Total</u> (4) \$	<u>Reference</u> (5)
1	Per Books	258,394	72,701	66,654	397,749	
2	Normalization - 5 Year Average	<u>0</u>	<u>424,075</u>	<u>53,695</u>	<u>477,770</u>	WP-JES-6, Page 19, Ln 7
3	Adjustment	(258,394)	351,374	(12,959)	<u>80,021</u>	

Bay State Gas Company
Adjustment to Operating Expenses - Gain on Sale of Property
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Sale of Water Heaters</u> (1) \$	<u>Westborough Building and Land</u> (2) \$	<u>LNG Trailers</u> (3) \$	<u>Propane Properties</u> (4) \$	<u>Total</u> (5) \$
1	<u>Year Sold</u>	1995	1997	2001	2001	
2	Sales Proceeds - Net	20,667,000	10,145,273	700,000	891,015	
3	Less:					
4	Net Book Value of Building					
5	&/or Equipment	20,240,818	8,024,444	-	574,877	
6	Book Value of Land	<u>-</u>	<u>1,256,000</u>	<u>-</u>	<u>85,935</u>	
7	Net Gain on Sale	426,182	864,829	700,000	230,203	2,221,214
8	Portion Assigned to Affiliates					
9	&/or Non-utility	<u>-</u>	<u>141,832</u>	<u>-</u>	<u>38,398</u>	<u>180,230</u>
10	Net Gain (Ln. 7 less Ln. 9)	426,182	722,997	700,000	191,805	2,040,984
11	Amortization period - PBR period					<u>5</u>
12	Amortization					<u>(408,197)</u>

Bay State Gas Company
Adjustment To Operating Expenses - Rate Case Expense
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> (1) \$	<u>Reference</u> (2)
1	Legal	400,000	WP-JES-6, Page 20, Ln 1
2	Depreciation Study	60,000	WP-JES-6, Page 20, Ln 2
3	Cost of Capital Support	44,000	WP-JES-6, Page 20, Ln 3
4	Performance Based Ratemaking Plan	340,000	WP-JES-6, Page 20, Ln 4
5	Cost of Service Study and Marginal Cost Study	210,000	WP-JES-6, Page 20, Ln 5
6	Steel Infrastructure Replacement Program Support	300,000	WP-JES-6, Page 20, Ln 6
7	Labor and Benefit Analyses	60,000	WP-JES-6, Page 20, Ln 7
8	Historic Capital Expenditures	66,000	WP-JES-6, Page 20, Ln 10
9	Other Professional Services	83,500	WP-JES-6, Page 20, Ln 14
10	Miscellaneous services (Copying, Supplies, Temporary Help, etc.)	<u>95,000</u>	WP-JES-6, Page 20, Ln 18
11	Total Estimated Rate Case Expenses (Lines 1 - 10)	1,658,500	
12	PBR Period	<u>5</u> Yrs.	
13	Annual Amortization (Line11 / Line12)	<u>331,700</u>	

Bay State Gas Company
Adjustment To Operating Expenses - Bad Debt Expense - Gas Revenue
Test Year Ended December 31, 2004

Line No.	Description	Firm Billed Revenue (1) \$	Net Write-Offs (2) \$	% of Write-Offs To Revenue (3 = 2 / 1)	Reference (4)
1	Year: 2002	301,555,112	7,526,468	2.50%	WP-JES-6, Page 21, Ln 4, & Ln 17
2	2003	447,636,461	9,936,287	2.22%	WP-JES-6, Page 21, Ln 4, & Ln 31
3	2004	<u>473,501,752</u>	<u>9,076,524</u>	1.92%	WP-JES-6, Page 21, Ln 4, & Ln 44
4	Total	1,222,693,325	26,539,280		
5	Three Year Weighted Average of				
6	Net Write-Offs as a % of Firm Billed Revenue			2.17%	
7	Test Year Normalized Firm Sales:				
8	Test Year Firm Gas Revenues - Billed			\$	Sch JES-4, Col. 1, Lns 4,5,6
9	Add: Firm Sales Adjustments			<u>489,361,562</u> <u>(14,443,301)</u>	Sch JES-4, Col. 2, Lns 4,5,6
10	Test Year Normalized Firm Sales			474,918,261	
11	Allowable Bad Debt Expenses (Line 6 x Line 10)			10,305,726	
12	Less: Test Year Bad Debt Expenses 2004			<u>3,199,694</u>	WP-JES-6, Page 21, Line 53
13	Total Bad Debt Expense Adjustment (Line 11 minus Line 12)			<u>7,106,032</u>	

Bay State Gas Company
Adjustment To Operating Expenses - Bad Debt Expense - EP&S
Test Year Ended December 31, 2004

Line No.	Year	Misc. Service Revenue (1) \$	Other Revenue Net Write-Offs (2) \$	% of Write-Offs To Revenue (3 = 2 / 1)	Reference (4)
		<u>Other Revenue Write-Offs</u>			
1	2002	14,426,620	586,771	4.07%	WP-JES-6, Pages 23, Ln 1 Page 22, Ln 14
2	2003	14,038,784	754,752	5.38%	WP-JES-6, Pages 23, Ln 1 Page 22, Ln 28
3	2004	<u>14,515,392</u>	<u>609,767</u>	4.20%	WP-JES-6, Pages 23, Ln 1 Page 22, Ln 42
4	Total	42,980,795	1,951,290		
5	Three Year Weighted Average of Other Revenue				
6	Net Write-Offs as a % of Misc Service Revenue			4.54%	
7	Test Year Normalized Other Revenue Sales:				
8	Test Year Miscellaneous Service Revenues			\$ 14,515,392	WP-JES-6, Pages 23, Ln 1
9	Allowable Other Revenue Bad Debt Expenses (line 6 x line 8)			658,999	
10	Less: Other Revenue Test Year Bad Debt Expenses 2004			<u>412,767</u>	WP-JES-6, Page 23, Ln 9
11	Total Other Revenue Bad Debt Expense Adjustment (Line 9 Minus Line 10)			<u>246,232</u>	

Bay State Gas Company
Adjustment To Operating Expenses - NiSource Corporate Services Company
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> (1) \$	<u>Reference</u> (2)
1	Payroll	454,871	WP-JES-6, Page 24, Ln 24
2	Benefits - Medical & Dental	274,566	WP-JES-6, Page 26, Ln 15
3	Payroll Taxes	27,421	WP-JES-6, Page 25, Ln 10
4	Charitable Contributions	<u>(8,735)</u>	WP-JES-6, Page 27, Ln 20
5	Total Adjustment	<u>748,122</u>	

Bay State Gas Company
Adjustment To Operating Expenses - Charitable Contributions
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> (1) \$
1	Charitable Contributions Made During The Test Year	(147,271)
2	Charitable Contributions Adjustment	(147,271)

Bay State Gas Company
Adjustment To Operating Expenses - Amortization of Deferred Farm Discount Credits
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Year</u>	<u>Discounts</u> (1) \$	<u>Reference</u> (2)
1	2000	14,256	WP-JES-6, Page 29, Ln. 13
2	2001	28,240	WP-JES-6, Page 29, Ln. 26
3	2002	20,618	WP-JES-6, Page 29, Ln. 39
4	2003	4,951	WP-JES-6, Page 29, Ln. 52
5	2004	<u>8,535</u>	WP-JES-6, Page 29, Ln. 65
6	Total Farm Sales	76,600	
7	Amortization (PBR Period)	<u>5 years</u>	
8	Adjustment for Farm Sales	<u>15,320</u>	

Bay State Gas Company
Adjustment To Operating Expenses - Postage
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> (1) \$	<u>Reference</u> (2)
1	Current Postage Rate	0.37	WP-JES-6. Page 30
2	Proposed Postage Rate	<u>0.39</u>	WP-JES-6. Page 30
3	Increase (Line 2 minus Line 1)	0.02	WP-JES-6. Page 30
4	Percent of Increase (Line 3 / Line 1)	5.41%	WP-JES-6. Page 30
5	Test Year Postage Expense	<u>1,255,946</u>	
6	Adjustment (Line 5 x Line 4)	<u>67,947</u>	

Bay State Gas Company
Adjustment To Operating Expenses - Research & Development Cost Related to GTI Activity
Test Year Ended December 31, 2004

<u>Line</u> <u>No.</u>	<u>Description</u>	<u>Amount</u> <u>(1)</u> \$
1	R&D Costs Related to Environmental Issues Consortium ("EIC") - Linking	
2	MGP Fuels to MGP By-Products With Stable C and H2 Isotopes	60,000
3	R&D Costs Related to Operations Technology Development ("OTD") Program	<u>250,000</u>
4	Total GTI Adjustment	<u><u>310,000</u></u>

Bay State Gas Company
Adjustment To Operating Expenses - Itron Lease Payment
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Monthly Payment</u> (1) \$
1	Lease Payment Associated with Itron Meter Reading	
2	Devices Sold in December, 2004 and Leased Back	25,842
3	Monthly Payments	<u>12</u>
4	Adjustment for Itron Lease Payment	<u>310,104</u>

Bay State Gas Company
Adjustment To Operating Expenses - Metscan Meter Reading Lease Payments
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Lease Payment Amount</u> \$	<u>Months</u>	<u>Lease Payment</u> \$
1	Lease Schedule No. 31946-00016	191,099	12	(2,293,188)
2	Lease Schedule No. 31946-00018	40,939	12	(491,263)
3	Lease Schedule No. 31946-00022	9,615	3	(28,846)
4	Lease Schedule No. 31946-00022	11,751	9	(105,755)
5	Metscan Lease Payment			(2,919,051)

Bay State Gas Company
Adjustment To Operating Expenses - CGA & LDAC Recoverable Costs
Test Year Ended December 31, 2004

<u>Line</u> <u>No.</u>	<u>Description</u>	<u>Amount</u> (1) \$
1	Bad Debt Write-offs Included in CGA	(5,290,135)
2	DSM Implementation	(2,418,260)
3	ERC Remediation	(1,210,869)
4	Customer Choice	65,832
5	Unbilled Related to LDAC Expense	<u>(373,735)</u>
6	Total	(9,227,167)
7	Total CGA & LDAC Recoverable O&M Costs Adjustment	<u>(9,227,167)</u>

Bay State Gas Company
Adjustment To Operating Expenses - Inflation Adjustment
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> (1) \$	<u>Reference</u> (2)
1	Test Year O&M Expense Per Books	99,007,484	Sch. JES - 1
2	Less:		
3	Payroll - Union & Non-Union	23,435,368	
4	Incentive Compensation	124,422	Sch. JES - 6, Page 3, Ln 5
5	Pensions	2,700,563	Exh. BSG/JES-4, Ln 10
6	PBOP	2,325,888	Exh. BSG/JES-4, Ln 22
7	Employee Benefits All Other	3,428,461	
8	Insurance Expense	2,292,280	Sch. JES - 6, Page 5, Ln 11
9	Self Insurance Claims	397,749	
10	Bad Debt Expense - Gas Revenue	3,199,694	Sch. JES - 6, Page 9, Ln 12
11	Bad Debt Expense - EP&S	412,767	Sch. JES - 6, Page 10, Ln 10
12	NiSource Corporate Services: Payroll Per Books	10,499,278	WP JES -6, Page 28, Ln 13
13	NiSource Corporate Services: Medical & Dental	1,231,237	WP JES -6, Page 31, Ln 26
14	NiSource Corporate Services: Pension Expense	482,106	WP JES -6, Page 31, Ln 13
15	NiSource Corporate Services: POP Expense	121,725	WP JES -6, Page 31, Ln 13
16	NiSource Corporate Services: Payroll / FICA	744,396	WP JES -6, Page 31, Ln 13
17	NiSource Corporate Services: Charitable Contributions	8,735	WP JES -6, Page 27, Ln 20
18	Charitable Contributions	147,271	Sch. JES - 6, Page 12, Ln 2
19	Postage	1,255,946	Sch. JES - 6, Page 14, Ln 5
20	Metscan Meter Reading Lease Payments	2,919,051	Sch. JES - 6, Page 17, Ln 5
21	CGA & LDAC Recoverable Costs	<u>9,227,167</u>	Sch. JES - 6, Page 18, Ln 7
22	Total Test Year Amounts (Lines 3 thru 19)	64,954,104	
23	Residual O&M Expenses Subject to Inflation (Line 1 Minus Line 20)	34,053,380	
24	Increase in GDPIPD from Midpoint of the Test Year		
25	to the Midpoint of the Rate Year	<u>3.51%</u>	
26	Total Inflation Adjustment	<u>1,195,274</u>	

Bay State Gas Company
Adjustment To Operating Expenses - Inflation Increase In GDPIPD
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Factor (1) %</u>
1	<u>Calculation of Inflation Rate</u>	
2	GDPIPD Index - Midpoint of Test Year 2004	1.0809
3	GDPIPD Index - Midpoint of Rate Year 2006	<u>1.1188</u>
4	Inflation Factor % (Line 3 divided by Line 2 Less 100%)	3.51%

Source for GDPIPD Index is Global Insight



Bay State Gas Company
Depreciation Expense Summary
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> (1) \$	<u>Reference</u> (2)
1	Depreciation Expense Annualized	4,651,387	Sch. JES - 7, Page 2, Ln 5
2	Completed Construction In Service		
3	Not Included In Account 101	<u>22,864</u>	Sch. JES - 7, Page 4, Ln 2
4	Depreciation Expense Summary	<u>4,674,251</u>	

Bay State Gas Company
Depreciation Expense Annualization
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> (1) \$	<u>Reference</u> (2)
1	Annualized Depreciation on Year End Utility Plant	28,844,934	Sch. JES - 7, Page 3, Ln 47
2	Less: Test Year 2004 Depreciation (Account 403)	<u>24,126,707</u>	
3	Depreciation Adjustment	4,718,226	
4	Less: Portion Allocated to Northern Utilities	<u>66,839</u>	WP-JES-7, Page 1, Ln 27
5	Annualized Depreciation Adjustment	<u>4,651,387</u>	

Bay State Gas Company
Depreciation Expense Annualized - 2004 Depreciation Accrual Rates &
Depreciation Expense by Plant Account
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Gas Plant Account</u> (1)	<u>Accumulated Plant</u> (2) \$	<u>Accrual Rate</u> (3) %	<u>Accumulated Expense</u> (4) \$
1	<u>PRODUCTION PLANT</u>				
2	Structures and Improvements	305	2,368,951	3.06	72,490
3	Liquefied Petroleum Gas Equipment	311	4,339,415	1.85	80,279
4	Other Equipment	320	819,245	7.46	61,116
5	LNG Equipment	321	15,428,067	3.61	556,953
6	<u>TRANSMISSION AND DISTRIBUTION PLANT</u>				
7	Rights of Way	365	79,051	2.18	1,723
8	Structures and Improvements	366	2,108,612	3.10	65,367
9	Mains:				
10	Cathodic Protection	367	8,274,626	7.55	624,734
11	Plastic	367	126,075,826	2.17	2,735,845
12	Coated Steel	367	146,116,729	2.53	3,696,753
13	Cast Iron	367	5,690,941	2.41	137,152
14	Joint Seal	367	20,020,721	6.42	1,285,330
15	Bare Steel	367	<u>2,554,359</u>	4.74	<u>121,077</u>
16	Total		308,733,201		8,600,891
17	Compressor Station Equipment	368	327,265	5.14	16,821
18	Measuring & Regulating Station Equipment	369	12,355,156	2.71	334,825
19	Other Equipment	379	510,252	2.64	13,471
20	Services	380	228,746,364	5.08	11,620,315
21	Meters	381	24,915,974	3.96	986,673
22	Meter Installations	382	45,198,411	3.34	1,509,627
23	House Regulators	383	13,612,047	4.06	552,649
24	<u>Other Property on Customer's Premise:</u>				
25	Conversion Burners	386	7,835,153	4.16	325,942
26	Water Heaters	386	14,053,382	7.06	992,169
27	Boilers	386	<u>569,752</u>	7.06	<u>40,224</u>
28	Total		22,458,288		1,358,336
29	Other Equipment	387	1,719,559	14.91	256,386
30	<u>GENERAL PLANT</u>				
31	Structures and Improvements	390	7,303,824	2.10	153,380
32	<u>Office Furniture and Equipment:</u>				
33	Office Furniture Equipment	391	6,468,086	4.76	307,881
34	Computer Equipment	391	<u>4,952,273</u>	20.33	<u>1,006,797</u>
35	Total		11,420,359		1,314,678
36	Transportation Equipment	392	2,363,594	13.87	327,830
37	Stores Equipment	393	50,473	11.41	5,759
38	Tools, Shop, and Garage Equipment	394	1,847,938	4.41	81,494
39	Power Operated Equipment	396	406,425	12.21	49,624
40	<u>Communication Equipment</u>				
41	Other Communication Equipment	397	7,400,315	6.80	503,221
42	Communication Equipment - ERT/ITRON	397	2,248,171	7.14	160,519
43	Metscan	397	644,449	24.71	159,243
44	Metscan - Pro- forma Retirement	397	<u>5,266,582</u>	0.00	<u>0</u>
45	Total		15,559,518		822,984
46	Miscellaneous Equipment	398	<u>25,220</u>	5.00	<u>1,261</u>
47	Annualized Depreciation on Year End Utility Plant		722,697,205		<u>28,844,934</u>

Bay State Gas Company
 Depreciation Expense - Completed Construction In Service
 Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Gas Plant Account</u> (1)	<u>Accumulated Plant</u> (2) \$	<u>Accrual Rate</u> (3) %	<u>Accumulated Expense</u> (4 = 2 x 3) \$	<u>Reference</u> (5) \$
1	Mains:					
2	Plastic	367	1,053,621	2.17	22,864	WP-JES 7, Page 2, Ln 20



Bay State Gas Company
Amortization of Utility Plant - Summary
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>2004 Amount</u> (1) \$	<u>Reference</u> (2)
1	Amortization of Goodwill	(11,127,204)	Sch JES - 8, Page 2, Ln 3
2	Amortization of Metscan Meter Reading Devices	<u>2,643,350</u>	Sch JES - 8, Page 3, Ln 7
3	Total Amortization Adjustment	<u>(8,483,854)</u>	

Bay State Gas Company
Amortization of Utility Plant - Goodwill
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>2004 Amount</u> (1) \$
1	Amortization of Bay State/Nipsco Goodwill	(11,027,252)
2	Amortization Lawrence Goodwill	<u>(99,952)</u>
3	Amortization Adjustment	<u>(11,127,204)</u>

Bay State Gas Company
Amortization of Utility Plant - Metscan Meter Reading Devices
Test Year Ended December 31, 2004

Line No.	Description	Amount (1) (\$)	Reference (2)
1	Retirement of Capital:		
2	March-05	3,121,366	
3	Leases:		
4	Fleet Operating Lease (2004 to 2009)	10,095,382	WP-JES-8, Page 1, Ln 6
5	Total Cost	13,216,748	
6	Amortization Period	<u>5</u>	
7	Annual Amortization	<u>2,643,350</u>	



Bay State Gas Company
Taxes Other Than Income Summary
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> (1) \$	<u>Reference</u> (2)
1	Annualized Property Tax Adjustment	310,710	Sch. JES - 9, Page 2, Ln 6
2	Payroll Tax Adjustment	<u>91,114</u>	Sch. JES - 9, Page 4, Ln 7
3	Taxes Other Than Income Summary	<u>401,823</u>	

Bay State Gas Company
Adjustment To Taxes Other Than Income - Property Taxes
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount</u> (1) \$	<u>Reference</u> (2)
1	Annualized Property Taxes	7,383,960	Sch. JES - 9, Page 3, Ln 39
2	Less: Property Tax Expense in 2004	<u>7,071,744</u>	
3	Property Tax Adjustment	312,217	
4	Less: Portion Allocated to Northern Utilities		
5	Pursuant to Building Cost Allocations	<u>1,507</u>	WP-JES-9, Page 1, Ln 27
6	Annualized Property Tax Adjustment	<u>310,710</u>	

Bay State Gas Company
Adjustment To Taxes Other Than Income - Property Tax Expense
Test Year Ended December 31, 2004
Property Taxes 7/01/04-6/30/05

Line No.	COMMUNITY (1)	ASSESSMENT (2) \$	RATE (3)	TOTAL TAX (4) \$	COMMUNITY (5)	ASSESSMENT (6) \$	RATE (7)	TOTAL TAX (8) \$
1	ABINGTON	14,800	0.010810	160	MIDDLEBORO	427,500	0.012140	5,190
2	AGAWAM	7,991,630	0.027730	221,744	MILLIS	1,150,870	0.011600	13,350
3	ANDOVER	10,012,860	0.018000	180,231	MONSON	5,362,200	0.013010	69,762
4	ATTLEBORO	8,550,746	0.016570	141,686	NORFOLK	451,170	0.012500	5,640
5	AVON	2,232,280	0.020750	46,320	NORTH ANDOVER	7,099,960	0.012590	89,389
6	BELLINGHAM	1,970,713	0.014470	28,516	NORTHAMPTON	9,341,680	0.012850	120,041
7	BERKLEY	102,120	0.007820	799	NORTON	3,892,890	0.010720	41,732
8	BRIDGEWATER	4,607,900	0.009760	44,973	NORWELL	1,923,650	0.010600	20,391
9	BROCKTON	32,778,040	0.021400	701,450	PALMER	1,954,350	0.015880	31,035
10	BROCKTON	103,600	0.010620	1,100	PALMER	1,592,530	0.016270	25,910
11	CANTON	6,696,700	0.020020	134,068	PALMER	530,850	0.016410	8,711
12	CHICOPEE	12,647,560	0.032490	410,919	PALMER	1,327,110	0.016090	21,353
13	DIGHTON	731,770	0.022541	16,495	PEMBROKE	3,689,600	0.010060	37,117
14	DOVER	99,560	0.008440	840	PLYMPTON	338,337	0.012520	4,236
15	DUXBURY	2,825,460	0.010140	28,650	RANDOLPH	5,694,620	0.019060	108,539
16	EAST BRIDGEWATER	2,679,350	0.011030	29,553	RAYNHAM	2,404,800	0.013420	32,272
17	EASTHAMPTON	3,408,030	0.012310	41,953	RAYNHAM	1,232,300	0.001300	1,602
18	EAST LONGMEADOW	4,795,350	0.016900	81,041	RAYNHAM	1,172,500	0.000540	633
19	EASTON	11,571,360	0.010690	125,595	REHOBOTH	349,248	0.008860	3,094
20	FOXBORO	5,039,690	0.010930	55,084	SCITUATE	4,703,500	0.009480	44,589
21	FRANKLIN	8,887,400	0.011040	98,117	SEEKONK	3,651,348	0.023500	85,807
22	GRANBY	399,900	0.013680	5,471	SHARON	6,174,600	0.015580	96,200
23	HALIFAX	950,900	0.011600	11,030	SOUTH HADLEY	1,578,529	0.016300	25,730
24	HAMPDEN	1,063,290	0.015620	16,609	SOUTH HADLEY	3,204,891	0.016390	52,528
25	HANOVER	2,843,060	0.010890	30,961	SOUTHWICK	1,232,719	0.014710	18,133
26	HANSON	2,161,700	0.010220	22,093	SPRINGFIELD	46,242,190	0.033360	1,542,639
27	HAVERHILL	200,200	0.018880	3,780	SPRINGFIELD	43,100	0.005012	216
28	HOLBROOK	2,883,440	0.022780	65,685	STOUGHTON	6,375,310	0.020220	128,909
29	LAKEVILLE	705,600	0.009140	6,449	TAUNTON	14,859,410	0.018100	268,955
30	LAWRENCE	17,878,070	0.026500	473,769	TAUNTON	15,700	0.008640	136
31	LONGMEADOW	4,112,210	0.017120	70,401	WALPOLE	5,515,410	0.014220	78,429
32	LUDLOW	18,576,670	0.014960	277,907	WARREN	23,080	0.014730	340
33	MANSFIELD	5,820,250	0.011760	68,446	WESTBOROUGH	9,529,500	0.014370	136,939
34	MARSHFIELD	6,838,340	0.008650	59,298	WEST BRIDGEWATER	2,193,500	0.017150	37,619
35	MEDFIELD	2,841,410	0.012920	36,711	WEST SPRINGFIELD	9,299,874	0.031200	290,156
36	MEDWAY	3,507,770	0.014230	49,916	WILBRAHAM	4,694,647	0.016960	79,621
37	MENDON	207,786	0.009800	2,036	WRENTHAM	2,189,160	0.013650	29,882
38	METHUEN	12,951,840	0.018320	237,278				
39					Total	383,151,988		7,383,960

Bay State Gas Company
Adjustment To Taxes Other Than Income - Payroll Taxes
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Taxable for Social Security</u> (1) \$	<u>Taxable for Medicare</u> (2) \$	<u>Total</u> (3) \$	<u>Reference</u>
1	2004 Bay State Gas Taxable Payroll	34,630,188	35,795,141		
2	Percent of Total Taxable	96.75%	100.00%		
3	Tax Rates	6.20%	1.45%		
4	Bay State Payroll Adjustment	1,564,624	1,617,258	1,617,258	Sch. JES -6, Page 2, Ln 26, Cols 1 & 2
5	Payroll Tax Change (line 3 * line 4)	97,007	23,450	120,457	
6	Expense Percentage	75.64%	75.64%		
7	Payroll Tax Adjustment (line 5 * line 6)	<u>73,376</u>	<u>17,738</u>	<u>91,114</u>	



Bay State Gas Company
Adjustment To Interest on Customer Deposits
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount (1) \$</u>	<u>Reference (2)</u>
1	Customer Deposit Balance at December 31, 2004	3,046,489	
2	Interest rate to be applied in 2005 per Department	<u>2.38%</u>	WP-JES-10, Page 1
3	Interest on Customer Deposits	<u>72,506</u>	



Bay State Gas Company
Computation of Federal Income and Massachusetts State Franchise Taxes
Test Year Ended December 31, 2004

Line No.	Description	Reference (1)	Detail (2)	Adjusted Before Rate Increase (3) \$	Proposed Rate Increase (4) \$	After Rate Increase (5) \$
1	Operating Income Before Income Taxes	Sch. JES - 1		29,891,648	21,755,754	51,647,402
2	Less: Interest Costs					
3	Rate Base	Sch. JES - 13, Page 1, Ln 19	397,106,628			
4	Weighted Cost of Debt	Sch. JES - 12, Ln 1	2.85%	11,317,539	0	11,317,539
5	Net Income			18,574,109	21,755,754	40,329,863
6	Massachusetts State Franchise Tax		6.50%	1,207,317	1,414,124	2,621,441
7	Federal Taxable Income			17,366,792	20,341,630	37,708,422
8	Federal Income Tax Rate		35.00%	6,078,377	7,119,571	13,197,948
9	Amortization of Deferred Income Taxes Deficiency Amount Approved at DPU 92-11	WP JES - 11, Page 1, Ln 29	174,017			
10	Update for 1% Federal Income Tax Increase	WP JES - 11, Page 1, Ln 29	89,587	263,604	0	263,604
11	Less Amortization of Investment Tax Credit			(373,740)	0	(373,740)
12	Net Federal Income and Massachusetts State Franchise Tax (Lines 6, 8, 10, & 11)			7,175,558	8,533,695	15,709,253

Bay State Gas Company
Return on Rate Base and Capital Structure Summary
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Capital Structure Percentage</u> (1)	<u>Cost</u> (2)	<u>Weighted Cost</u> (3 = 1 x 2)	<u>Reference</u>
1	Long Term Debt	46.05%	6.18%	2.85%	Exhibit BSG/PRM-2 Schedule PRM-1, Page 1
2	Common Equity	<u>53.95%</u>	11.50%	<u>6.20%</u>	Exhibit BSG/PRM-2 Schedule PRM-1, Page 1
3	Total Capitalization	100.00%		9.05%	



Bay State Gas Company
Rate Base Summary
Test Year Ended December 31, 2004

Line No.	Description	Per Books (1) \$	Adjustments (2) \$	Adjusted Books (3 = 1 + 2) \$	Reference (4)
1	Additions				
2	Total Utility Plant (Annual Return Page 18)	1,212,056,778	(451,173,568)	760,883,211	Sch. JES-13, Page 2, Ln 4, Page 3, Ln 3
3	Prepayments - Acct 165	0	0	0	
4	Cash Working Capital	11,449,225	4,388	11,453,613	Sch. JES - 14, Ln 4
5	Material & Supplies	3,640,535	(232,466)	3,408,069	Sch. JES - 15, Ln 17
6	Total Additions	1,227,146,539	(451,401,646)	775,744,893	
7	Deductions				
8	Work in Progress (Annual Return Page 18) - Acct 107	7,385,734	(1,053,621)	6,332,113	Sch. JES - 13, Page 4, Ln 3
9	Plant Held for Future Use (Annual Return Page 18) - Acct 105	0	0	0	
10	Reserves:				
11	Deferred Taxes - Accounts 188, 268	86,081,290	(558,752)	85,522,538	Sch. JES - 13, Page 3, Ln 9
12	Depreciation (Annual Return Page 13) - Acct 254	266,210,015	(2,145,215)	264,064,800	Sch. JES - 13, Page 3, Ln 6
13	Amortization of Intangible Plant (Annual Return Page 13) - Acct 257	89,869,431	(70,541,969)	19,327,463	Sch. JES - 13, Page 2, Ln 8
14	Unamortized Pre-1971 ITC (Annual Return Page 33) - Acct 253	11,170	0	11,170	WP-JES-13, Page 1, Ln 53
15	Customer Advances (Annual Return Page 9) - Acct 252-02	11,088	0	11,088	
16	Customer Deposits (Annual Return Page 9) - Acct 235	3,090,784	0	3,090,784	
17	Unclaimed Checks - Account 232-05	278,310	0	278,310	
18	Total Deductions	452,937,821	(74,299,557)	378,638,265	
19	Total Rate Base	774,208,717	(377,102,089)	397,106,628	

Bay State Gas Company
Adjustments to Rate Base - Bay State/NIPSCO & Lawrence Goodwill
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Per Books</u>
		(1)
		\$
1	<u>Adjustments to Utility Plant:</u>	
2	Organization (Bay State/NIPSCO Goodwill)	(442,163,257)
3	Organization (Lawrence Goodwill)	<u>(3,743,730)</u>
4	Total Adjustment to Utility Plant	<u>(445,906,987)</u>
5	<u>Adjustment to Amortization of Intangible Plant:</u>	
6	Organization (Bay State/NIPSCO Goodwill)	(67,605,214)
7	Organization (Lawrence Goodwill)	<u>(2,936,755)</u>
8	Total Adjustment to Amortization Reserve	<u>(70,541,969)</u>

Bay State Gas Company
Adjustments to Rate Base - Elimination of Metscan Meter Reading Devices
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Per Books</u> (1) \$	<u>Reference</u> (2)
1	<u>Adjustments to Utility Plant:</u>		
2	Account 397 Communications Equipment - Metscan	<u>(5,266,581)</u>	WP-JES - 13, Page 2, Ln 53
3	Total Adjustment to Utility Plant	<u>(5,266,581)</u>	
4	<u>Adjustment to Depreciation Reserve</u>		
5	Account 254 Accumulated Depreciation	<u>(2,145,215)</u>	WP-JES - 13, Page 2, Ln 53
6	Total Adjustment to Amortization Reserve	<u>(2,145,215)</u>	
7	<u>Adjustment to Deferred Taxes</u>		
8	Deferred Taxes - Accounts 188, 268	<u>(558,752)</u>	WP-JES - 13, Page 2, Ln 53
9	Total Adjustment to Deferred Taxes	<u>(558,752)</u>	

Bay State Gas Company
Adjustment to Rate Base - Completed Construction In Service
Not Included in Account 101
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Amount (1) \$</u>	<u>Reference (2)</u>
1	<u>Construction Work In Progress:</u>		
2	Less: Work In Progress Account 107 Transferred to Utility Plant Account 101	<u>(1,053,621)</u>	WP JES - 7, Page 2, Ln 20
3	Additional Adjustment to Rate Base	<u>(1,053,621)</u>	



Bay State Gas Company
Adjustments to Rate Base - Allowance for Other O&M Cash Working Capital
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Description</u>	<u>Per Books</u> (1) \$	<u>Adjustment</u> (2) \$	<u>Total</u> (3) \$	<u>Reference</u> (4)
1	<u>Cash Working Capital Components</u>				
2	O&M Expenses	99,007,484	37,945	99,045,429	Schedule JES - 1
3	Cash Working Capital Factor for Other O&M Expense	<u>11.564%</u>	<u>11.564%</u>	<u>11.564%</u>	Exh. BSG/JES - 2
4	Cash Working Capital Adjustment	11,449,225	4,388	<u>11,453,613</u>	

Bay State Gas Company
Adjustments to Rate Base - Materials & Supplies Inventory
Test Year Ended December 31, 2004

<u>Line No.</u>	<u>Month</u>	<u>Amount</u> (1) \$
1	December, 2003	3,075,595
2	January, 2004	3,213,840
3	February	3,364,811
4	March	3,504,333
5	April	3,356,876
6	May	3,187,623
7	June	3,236,405
8	July	3,559,647
9	August	3,634,441
10	September	3,552,015
11	October	3,537,935
12	November	3,440,834
13	December, 2004	<u>3,640,535</u>
14	Total	44,304,892
15	13 Month Average	3,408,069
16	Balance @ December 31, 2004 (DTE Return Page 24)	<u>3,640,535</u>
17	Total Rate Base Adjustment	<u>(232,466)</u>



Department Schedule 1
Revenue Requirement Calculation

Line No.	Description	Per Company <u>(1)</u>
1	Cost of Service	
2	Cost of Gas	307,478,651
3	O & M Expense	<u>99,528,001</u>
4	Total O & M Expense	407,006,652
5	Depreciation Expense	28,800,958
6	Amortization Expense	6,552,895
7	Taxes Other Than Income Taxes	10,067,165
8	Income Taxes	16,082,993
9	Interest on Customer Deposits	72,506
10	Amortization of ITC	(373,740)
11	Return on Rate Base	<u>35,938,149</u>
12	Total Cost of Service	504,147,579
13	Operating Revenues	510,457,335
14	Revenue Adjustments	<u>(28,548,082)</u>
15	Total Operating Revenues	481,909,253
16	Revenue Deficiency	<u>22,238,326</u>
17	Total Increase in Revenues	
18	as of December 1, 2004	<u>22,238,326</u>

Department Schedule 2
Operation and Maintenance
Expenses

Line No.	Description	Per Company (1)	Reference (2)
1	Purchased Gas Expense	323,863,512	Sch. JES - 1
2	Other O&M Expense	<u>99,007,484</u>	Sch. JES - 1
3	O&M Expense Per Books - Plus Proposed Rate Increase	<u>422,870,996</u>	
4	Adjustments To Purchased Gas Expense:		
5	Gas Cost Adjustment	<u>(16,384,861)</u>	Sch. JAF - 1
6	Total Adj. To Purchased Gas Expense	<u>(16,384,861)</u>	
7	Adjustments To Other O&M Expense		
8	Payroll Adjustment - Union	1,173,418	Sch. JES - 6, Page 2 of 20
9	Payroll Adjustment - Non-Union	443,840	Sch. JES - 6, Page 2 of 20
10	Incentive Compensation	(124,422)	Sch. JES - 6, Page 3 of 20
11	Medical & Dental Insurance	741,045	Sch. JES - 6, Page 4 of 20
12	Property and Liability Insurance Expense	94,997	Sch. JES - 6, Page 5 of 20
13	Self Insurance Claims	80,021	Sch. JES - 6, Page 6 of 20
14	Gain on Sale of Property	(408,197)	Sch. JES - 6, Page 7 of 20
15	Rate Case Expense	331,700	Sch. JES - 6, Page 8 of 20
16	Bad Debt Expense - Gas Revenue	7,106,032	Sch. JES - 6, Page 9 of 20
17	Bad Debt Expense - EP&S	246,232	Sch. JES - 6, Page 10 of 20
18	NiSource Corporate Services Company	748,122	Sch. JES - 6, Page 11 of 20
19	Charitable Contributions	(147,271)	Sch. JES - 6, Page 12 of 20
20	Amortization of Deferred Farm Discount Credits	15,320	Sch. JES - 6, Page 13 of 20
21	Postage	67,947	Sch. JES - 6, Page 14 of 20
22	Research and Development Costs Related to GTI	310,000	Sch. JES - 6, Page 15 of 20
23	Itron Lease Payment	310,104	Sch. JES - 6, Page 16 of 20
24	Metscan Meter Reading Lease Payment	(2,919,051)	Sch. JES - 6, Page 17 of 20
25		(9,227,167)	Sch. JES - 6, Page 18 of 20
26	Inflation Adjustment	<u>1,195,274</u>	Sch. JES - 6, Page 19 of 20
27	Total Adjustment to Other O&M Expense	37,945	
28	Adjusted Total O&M Expense	<u>406,524,080</u>	
29	Other O&M Expense - Proposed Rate Increase	<u>482,572</u>	Sch. JES - 1

Department Schedule 3

Depreciation and Amortization
Expenses

<u>Line No.</u>	<u>Description</u>	<u>Per Company (1)</u>	<u>Reference (2)</u>
1	Depreciation Expense	28,800,958	Sch. JES - 1
2	Amortization Expense	<u>6,552,895</u>	Sch. JES - 1
3	Total Depreciation & Amort. Exp.	<u>35,353,853</u>	

Department Schedule 4

Rate Base and Return
On Rate Base

Line No.	Description	Per Company (1)	Reference (2)
1	Utility Plant in Service	760,883,211	Sch. JES - 13, Page 1
2	Less:		
3	Reserve For Depreciation	264,064,800	Sch. JES - 13, Page 1
4	Amortization of Intangible Plant	<u>19,327,463</u>	Sch. JES - 13, Page 1
5	Net Utility Plant in Service	477,490,948	
6	Additions To Plant:		
7	Cash Working Capital	11,453,613	Sch. JES - 13, Page 1
	Materials & Supplies	<u>3,408,069</u>	Sch. JES - 13, Page 1
	Total Additions to Plant	14,861,682	
10	Deductions From Plant:		
11	Work in Progress	6,332,113	Sch. JES - 13, Page 1
12	Plant Held for Future Use	0	
13	Reserve for Deferred Inc. Taxes	85,522,538	Sch. JES - 13, Page 1
14	Unamortized ITC-Pre1971	11,170	Sch. JES - 13, Page 1
15	Customer Advances	11,088	Sch. JES - 13, Page 1
16	Customer Deposits	3,090,784	Sch. JES - 13, Page 1
17	Unclaimed Funds	<u>278,310</u>	Sch. JES - 13, Page 1
18	Total Deductions from Plant	95,246,002	
19	Rate Base	397,106,628	Sch. JES - 13, Page 1
20	Cost of Capital	<u>9.05%</u>	Sch. JES - 12
21	Return On Rate Base	35,938,150	

Department Schedule 5

Cost of Capital

Line No.	Description	Per Company			
		(1)	(2)	(3)	(4)
		<u>Principal</u>	<u>Percentage</u>	<u>Cost</u>	<u>Rate of Return</u>
1	Long-Term Debt	183,500,000	46.05%	6.18%	11,340,300
2	Preferred Stock	0	0.00%	0.00%	0
3	Common Equity	<u>214,940,703</u>	53.95%	11.50%	<u>24,718,181</u>
4	Total Capital	398,440,703	100.00%		36,058,481
5	Weighted Cost of				
6	Debt	2.85%			
7	Preferred Stock	0.00%			
8	Common Equity	<u>6.20%</u>			
9	Cost of Capital	9.05%			

Department Schedule 6

Cash Working Capital

<u>Line No.</u>	<u>Description</u>	<u>Per Company</u> <u>(1)</u>	<u>Reference</u> <u>(2)</u>
1	Other O&M Expense	99,045,429	Sch. JES - 14
2	Total Amount Subject to		
3	Cash Working Capital Allowance	99,045,429	
4	Cash Working Capital Allowance	11,453,613	Sch. JES - 14
5	Composite Total times (41.17 / 365)	11.564%	Exh. BSG/JES-2

Department Schedule 7
 Taxes Other Than Income Taxes

Line No.	Description	Per Company (1)	Reference (2)
1	State Franchise	45,845	Annual Report
2	State Unemployment	460,779	Annual Report
3	Other State	12,791	Annual Report
4	Property Tax	7,382,453	Sch. JES - 9, Page 2, Ln 1 minus Ln 5
5	Motor Vehicle Excise	16,856	Annual Report
6	FICA & Medicare (B)	2,085,843	Sch. JES - 9, Page 4, Annual Report
	Federal Unemployment	26,314	Annual Report
7	Other Federal	36,284	Annual Report
8	Total Taxes Other Than Income	10,067,165	

Department Schedule 8

Income Taxes

Line No.	Description	Per Company (1)	Reference (2)
1	Rate Base	397,106,628	Sch. JES - 13, Page 1
2	Return on Rate Base	<u>35,938,149</u>	Sch. JES - 1
3	LESS:		
4	Interest Expense	<u>11,317,539</u>	Sch. JES - 11
5	Amortization of Deferred Income Taxes Deficiency	(263,604)	Sch. JES - 11
6	Amortization of Investment Tax Credit	<u>373,740</u>	Sch. JES - 11
7	Taxable Income Base	24,510,474	
8	Taxable Income		
9	(Taxable Income Base x 1.6454)	40,329,865	
10	Mass State Franchise Tax (6.5 Percent)	2,621,441	
	Federal Taxable Income	37,708,424	
13	Federal Income Tax Calculated	13,197,948	
14	Total Income Taxes Calculated	15,819,389	
15	Amort of Deferred Income Taxes Deficiency	263,604	Sch. JES - 11
16	Amortization of Investment Tax Credit	<u>(373,740)</u>	Sch. JES - 11
17	Total Income Taxes	<u>15,709,253</u>	

Department Schedule 9

Revenues

<u>Line No.</u>	<u>Description</u>	<u>Per Company (1)</u>	<u>Reference (2)</u>
1	Operating Revenues Per Books	510,457,335	Sch. JES - 1
2	Revenue Adjustments		
3	Annualized Revenue Adjustment	(13,670,060)	Sch. JES - 4
4	Residential Transportation of Gas	4,167	Sch. JES - 4
5	Comm/Industrial Transportation of Gas	(777,408)	Sch. JES - 4
6	Off System Sales	(3,874,467)	Sch. JES - 4
7	Lost Net Revenue	(329,961)	Sch. JES - 4
8	Carrying Costs-Pre tax of Rate of Return	988,820	Sch. JES - 4
9	Production & Storage Revenues	8,085,135	Sch. JES - 4
10	Elimination of Indirect GAF and DAF	(26,092,473)	Sch. JES - 4
11	Add Back Bad Debt Exp. Included in Indirect Gas Cost	<u>7,118,165</u>	Sch. JES - 4
12	Total Revenue Adjustments	(28,548,082)	Sch. JES - 4
13	Adjusted Total Operating Revenues	<u>481,909,253</u>	

Bay State Gas Company
SIR Base Rate Adjustment
Revenue Requirement
SAMPLE

<u>Ln. No.</u>	<u>Description</u> (1)	<u>Detail</u> (2) (\$)	<u>Total</u> (3) (\$)	<u>Reference</u> (4)
<u>Rate Base:</u>				
1	Property, Plant & Equipment (P,P &E)		40,000,000	Pg. 4 of 12, Col.6, Ln. 5.
2	Accumulated Reserve for Depreciation		<u>(1,055,331)</u>	Pg. 5 of 12, Col. 5, Ln. 5
3	Net P, P, & E (Ln. 1 + Ln. 2)		38,944,670	
4	Accumulated Deferred Income Tax		<u>(740,752)</u>	Pg. 7 of 12, Col. 18, Ln. 3.
5	Net Rate Base (Ln. 3 + Ln. 4)		<u>38,203,918</u>	
<u>Revenue Requirement:</u>				
6	Depreciation Expense		1,052,433	Pg. 6 of 12, Col. 7. Ln. 5
7	Property Tax		726,109	Pg. 8 of 12, Col. 4, Ln. 9
8	Carrying Costs - In Service to Rate Implementation		2,616,012	Pg. 9 of 12, Col. 5, Ln.23
9	Pre-tax return	13.05%	<u>4,985,611</u>	Pg. 10 of 12, Col. 5, Ln. 3
10	Revenue Requirement (Lns. 6 thru 10)		<u>9,380,165</u>	
<u>11 Previously Approved Increases:</u>				
12	Year 1	5,979,860		
13	Year 2	-		
14	Total (Ln. 12 plus Ln. 13)		<u>5,979,860</u>	
15	Additional Gross Revenue Request (Ln. 10 less Ln. 14)		3,400,305	
16	Total Program Year O&M Leak Repair Offset		<u>45,932</u>	Pg. 11 of 12, Col.3, Ln. 7
17	Net Additional Revenue Requirement (Ln. 15 less Ln. 16)		<u>3,354,373</u>	

Bay State Gas Company
SIR Base Rate Adjustment
Eligible Additions
SAMPLE

<u>Ln. No.</u>	<u>Description</u>	<u>Current Year Total Direct Additions 1/</u> (1) (\$)	<u>Four Year Avg. Pg. 3, Col. 6</u> (2) (\$)	<u>Eligible Additions For SIR</u> (3)=(1-2) (\$)
<u>Bare Steel Replacement Costs</u>				
1	Mains	15,552,265	2,733,699	12,818,566
2	Services	3,231,844	1,083,234	2,148,610
3	Meter Installations and Other Eligible Facilities	<u>524,311</u>	<u>224,311</u>	<u>300,000</u>
4	Total Cost	<u>19,308,420</u>	<u>3,232,995</u>	<u>15,267,176</u>

Bay State Gas Company
SIR Base Rate Adjustment
Historical Bare Steel Replacement Capital Expenditures
Direct Costs
2000 through 2003
ACTUAL

<u>Ln. No.</u>	<u>Description</u> (1)	<u>2000</u> (2) (\$)	<u>2001</u> (3) (\$)	<u>2002</u> (4) (\$)	<u>2003</u> (5) (\$)	<u>Average</u> (6) (\$)
<u>Bare Steel Replacement Costs</u>						
1	Mains	1,683,647	3,555,845	2,533,660	3,161,644	2,733,699
2	Services	744,544	1,324,186	1,077,621	1,186,583	1,083,234
3	Other Additions	<u>130,265</u>	<u>292,982</u>	<u>224,915</u>	<u>249,083</u>	<u>224,311</u>
	Total Cost	2,558,456	5,173,013	3,836,196	4,597,310	<u>3,232,995</u>

Bay State Gas Company
 SIR Base Rate Adjustment
 Property, Plant & Equipment
 SAMPLE

Ln. No.	Description (1)	Beginning Balance (2) (\$)	Eligible Additions Pg. 2, Col. 3. (3) (\$)	Overheads @ 31% (4)=(3*31%) (\$)	Current Year Additions (5)=(3+4) (\$)	Ending Balance (6)=(2+5) (\$)
1	Mains	16,620,000	12,818,566	3,973,755	16,792,321	33,412,321
2	Services	3,020,000	2,148,610	666,069	2,814,679	5,834,679
3	Meter Installations and Other Eligible Facilities	360,000	300,000	93,000	393,000	753,000
4	Regulators	-	-	-	-	-
5	Total P,P&E	<u>20,000,000</u>	<u>15,267,176</u>	<u>4,732,824</u>	<u>20,000,000</u>	<u>40,000,000</u>

Bay State Gas Company
 SIR Base Rate Adjustment
 Reserve for Depreciation
 SAMPLE

Ln. No.	Description (1)	Beginning Balance (2) (\$)	Depreciation on Beginning Plant Balance Pg. 6 of 12 Col. 4 (3) (\$)	Depreciation on Current Additions Pg. 6 of 12 Col. 6 (4) (\$)	Ending Balance (5)=(2+3+4) (\$)
1	Mains	180,327	360,654	182,197	723,178
2	Services	78,218	156,436	72,900	307,554
3	Meter Installations	6,012	12,024	6,563	24,599
4	Regulators	-	-	-	-
5	Total	264,557	529,114	261,660	1,055,331

Bay State Gas Company
 SIR Base Rate Adjustment
 Depreciation
 SAMPLE

Ln. No.	Description (1)	Beginning Plant Balance (2) (\$)	Deprec. Rates (3) (\$)	Deprec. on Beginning Balance (4)=(2*3) (\$)	Current Year Additions Pg. 4 of 12 Col. 5 (5) (\$)	Half Year Depreciation on Additions (6)=(2+5)/2 (\$)	Annualized Depreciation (7)=(4+6*2)
1	Mains	16,620,000	2.17%	360,654	16,792,321	182,197	725,047
2	Services	3,020,000	5.18%	156,436	2,814,679	72,900	302,236
3	Meters	360,000	3.34%	12,024	393,000	6,563	25,150
4	Regulators	-	4.06%	-	-	-	-
	Total	20,000,000		529,114	20,000,000	261,660	1,052,433

Bay State Gas Company
SIR Base Rate Adjustment
Tax Depreciation
SAMPLE

Ln. No.	Tax Rate Life Rates (1)	Year (2)	Tax Depreciation										Book Deprec. 1/ 2/ (15) (\$)	Difference (16) (\$)	Differed Tax @ 39.225% (17) (\$)	Accumulated Deferred Inc. Taxes (18) (\$)
			Year 1 Additions (3) (\$)	Year 2 Additions (4) (\$)	Year 3 Additions (5) (\$)	Year 3 Additions (6) (\$)	Year 4 Additions (7) (\$)	Year 5 Additions (8) (\$)	Year 6 Additions (9) (\$)	Year 7 Additions (10) (\$)	Year 8 Additions (11) (\$)	Year 9 Additions (12) (\$)	Year 10 Additions (13) (\$)	Annual Tax Depreciation (14) (\$)		
1			20,000,000	20,000,000												
2	0.03750	1	750,000											750,000	485,443	190,415
3	0.07219	2	1,443,800	750,000										2,193,800	1,403,027	550,337
4	0.08677	3	1,335,400	1,443,800										2,779,200	2,779,200	1,090,141
5	0.08177	4	1,235,400	1,335,400										2,570,800	2,570,800	1,008,396
6	0.05713	5	1,142,600	1,235,400										2,378,000	2,378,000	932,771
7	0.05285	6	1,057,000	1,142,600										2,199,600	2,199,600	862,793
8	0.04888	7	977,600	1,057,000										2,034,600	2,034,600	798,072
9	0.04522	8	904,400	977,600										1,882,000	1,882,000	738,215
10	0.04462	9	892,400	904,400										1,796,800	1,796,800	704,795
11	0.04461	10	892,200	892,400										1,784,600	1,784,600	700,009
12	0.04462	11	892,400	892,200										1,784,600	1,784,600	700,009
13	0.04461	12	892,200	892,400										1,784,600	1,784,600	700,009
14	0.04462	13	892,400	892,200										1,784,600	1,784,600	700,009
15	0.04461	14	892,200	892,400										1,784,600	1,784,600	700,009
16	0.04462	15	892,400	892,200										1,784,600	1,784,600	700,009
17	0.04461	16	892,200	892,400										1,784,600	1,784,600	700,009
18	0.04462	17	892,400	892,200										1,784,600	1,784,600	700,009
19	0.04461	18	892,200	892,400										1,784,600	1,784,600	700,009
20	0.04462	19	892,400	892,200										1,784,600	1,784,600	700,009
21	0.04461	20	892,200	892,400										1,784,600	1,784,600	700,009
22	0.02231	21	446,200	892,200										1,338,400	1,338,400	524,987
23				446,200										446,200	446,200	175,022
24																
25																
26																
27																
28																
29																
30																
31																
32																
33																
34			20,000,000	20,000,000										40,000,000		
35																

NOTES:
1/ Source of \$264,557 - Pg. 5 of 12, Col. 2, Ln. 5.
2/ Source of \$790,774 - Pg. 6 of 12, Cols. 4 & 6, Ln. 5.

Bay State Gas Company
 SIR Base Rate Adjustment
 Property Tax
 SAMPLE

<u>Ln. No.</u>	<u>Taxable Property</u> (1)	<u>Reference</u> (2)	<u>Detail</u> (3) (\$)	<u>Taxable Value</u> (4) (\$)
1	Gross Plant			
2	Mains	Pg. 4 of 12, Col. 6, Ln. 1	33,412,321	
3	Services	Pg. 4 of 12, Col. 6, Ln. 2	<u>5,834,679</u>	39,247,000
4	Reserve for Depreciation			
5	Mains	Pg. 5 of 12, Col. 5, Ln. 1	723,178	
6	Services	Pg. 5 of 12, Col. 5, Ln. 2	<u>307,554</u>	<u>1,030,732</u>
7	Total Taxable Value (Ln. 3 less Ln. 6)			38,216,269
8	Composite Tax Rate for Calendar Year			1.90%
9	Annualized Taxes			<u>726,109</u>

Bay State Gas Company
SIR Base Rate Adjustment
Carrying Costs
From In Service to Implementation of Rates
SAMPLE

<u>Ln.</u> <u>No.</u>	<u>Lag Period</u> <u>(1)</u>	<u>Monthly</u> <u>Additions</u> <u>(2)</u> <u>(\$)</u>	<u>Cumulative</u> <u>Additions</u> <u>(3)</u> <u>(\$)</u>	<u>Monthly</u> <u>Cost of</u> <u>Capital</u> <u>(4)</u> <u>(%)</u>	<u>Cost</u> <u>(5)</u> <u>(\$)</u>
1	Jan.	-	-	1.09%	-
2	Feb.	-	-	1.09%	-
3	Mar.	-	-	1.09%	-
4	April	2,857,200	2,857,200	1.09%	31,143
5	May	2,857,200	5,714,400	1.09%	62,287
6	June	2,857,200	8,571,600	1.09%	93,430
7	July	2,857,200	11,428,800	1.09%	124,574
8	Aug.	2,857,200	14,286,000	1.09%	155,717
9	Sept.	2,857,200	17,143,200	1.09%	186,861
10	Oct.	2,856,800	20,000,000	1.09%	218,000
11	Nov.		20,000,000	1.09%	218,000
12	Dec.		20,000,000	1.09%	218,000
13	Jan.		20,000,000	1.09%	218,000
14	Feb.		20,000,000	1.09%	218,000
15	Mar.		20,000,000	1.09%	218,000
16	Apr.		20,000,000	1.09%	218,000
17	May		20,000,000	1.09%	218,000
18	June		20,000,000	1.09%	218,000
19	July		20,000,000	1.09%	218,000
20	Aug.		20,000,000	1.09%	218,000
21	Sept.		20,000,000	1.09%	218,000
22	Oct.		20,000,000	1.09%	218,000
23	Total				<u>2,616,012</u>

Bay State Gas Company
 SIR Base Rate Adjustment
 Rate of Return
 AS FILED IN D.T.E. 05-27

<u>Ln.</u> <u>No.</u>	<u>Item</u> <u>(1)</u>	<u>Capital</u> <u>Ratio</u> <u>(2)</u>	<u>Cost</u> <u>(3)</u>	<u>Weighted</u> <u>Cost</u> <u>(4)</u>	<u>Pre-Tax</u> <u>Cost</u> <u>(5)</u>
1	Debt	46.05%	6.18%	2.85%	2.85%
2	Equity	<u>53.95%</u>	<u>11.50%</u>	<u>6.20%</u>	<u>10.20%</u>
3	Total	100.00%		9.05%	13.05%

Bay State Gas Company
 SIR Base Rate Adjustment
 O&M Leak Repair Offset
 SAMPLE

<u>Ln. No.</u>	<u>Description</u> (1)	<u>4 Year Avg.</u> (2)	<u>SIR Program Year 1/ (3)</u>	<u>Difference</u> (4 = 2 - 3)	<u>Reference</u> (5)
1	Number of O&M Corrosion Leaks Repaired				
2	Mains	719	674	45	Pg. 12 of 12
3	Costs Per Corrosion Leak Repaired				
4	Mains (Pg. 12, Col. 6. Ln. 3)	\$1,021			Pg. 12 of 12
5	O&M Offset				
6	Mains (Col. 4, Ln. 2 x Col. 2, Ln. 4)		<u>\$45,932</u>		
7	Total Program Year O&M Leak Repair Offset		<u>\$45,932</u>		

NOTES:

1/ Source - Bay State Gas Company's Annual Department of Transportation Office of Pipeline Safety ("DOT") Report
 - DOT Form RSPA F 7100.1-1, Part C.

**Bay State Gas Company
SIR Base Rate Adjustment
Main Corrosion Leak Repair Costs and Volumes
2000 through 2003
ACTUAL**

<u>Ln. No.</u>	<u>Description</u> (1)	<u>2000</u> (2)	<u>2001</u> (3)	<u>2002</u> (4)	<u>2003</u> (5)	<u>Average</u> (6)=(2 thru 5)/4
1	Repair Costs for Main Corrosion Leaks 1/	\$ 816,215	\$ 708,330	\$ 595,902	\$ 819,575	\$ 735,006
2	Number of Main Corrosion Leaks Repaired 2/	804	686	613	771	719
3	Average Main Corrosion Repair Cost per Leak (Ln. 1 / Ln. 2)	\$ 1,015	\$ 1,033	\$ 972	\$ 1,063	\$ 1,021

ES:
1/ Source - Bay State Gas Company's Activity Based Costing (ABC) System
2/ Source - Bay State Gas Company's Annual Department of Transportation Office of Pipeline Safety ("DOT") Report - DOT Form RSPA F 7100.1-1, Part C.